

# ABSORPTION COEFFICIENTS OF HEATED AIR: A COMPILATION TO 24,000°K

Volume II

Contract AF 29(601)-6320



TECHNICAL REPORT NO. AFWL-TR-65-132, Vol. II

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AFWL-TR-65-132, Vol. II

ABSORPTION COEFFICIENTS OF HEATED  
AIR: A COMPILATION TO 24,000°K

Final Report

Volume II

Contract AF 29(601)-6320

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## FOREWORD

This report was prepared by members of the Physical Sciences Laboratory of Lockheed Missiles and Space Company, Palo Alto, California, under Contract AF 29(601)-6320. The work was performed under Program Element 7.60.06.01.D, Project 5710, Subtask 07.003, and was funded by the Defense Atomic Support Agency (DASA). This effort was carried out at the Palo Alto Research Laboratories during the period from 1 April 1964 to 30 July 1965. The report was submitted on 20 September 1965 by the AFWL Project Officer, Lt Fred J. Reule (WLRTH).

Volume I of this report presents a discussion of absorption processes and an equilibrium code. Volume II is the compilation of the absorption coefficients of heated air.

A list of major contributors to this effort follows:

- |                 |  |
|-----------------|--|
| B. H. Armstrong | - Organized and served as consultant on the atomic photoionization calculations and co-authored the report.  |
| D. R. Churchill | - Coordinated the various contributions, compiled the tables, calculated the molecular contributions, and co-authored the report.  |
| D. J. Colvin    | - Programmed portions of the computer code <u>multiplet</u> and obtained the occupation numbers for the multiplet components of the energy levels of atomic nitrogen and oxygen.   |
| S. A. Hagstrom  | - Served as consultant on molecular radiative processes.   |
| R. R. Johnston  | - Developed the <u>PIC</u> code which computes the photoionization absorption in atomic nitrogen and oxygen. Developed or adapted the requisite theory.  |
| H. R. McChesney | - Carried out the extensive species concentration calculations and obtained the molecular Boltzmann fractions. This work was based in part on that of F. R. Gilmore at Rand (see text).  |
| K. G. Mueller   | - Provided the absorption coefficients for NO <sub>2</sub> , O <sup>-</sup> photodetachment, and free-free processes. (Z. Taulbee carried out the necessary machine computations.) Authored the sections on those contributions. |
| R. W. Nicholls  | - Provided the molecular band intensities and served as consultant.  |
| O. R. Platas    | - Carried out the extensive photoionization calculations with the aid of the PIC program.  |

This report has been reviewed and is approved.

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### ABSTRACT

An extensive tabulation of absorption coefficients of heated air has been carried out with the aid of several large digital computer programs. These tables supersede the previous ones computed at Lockheed by Meyerott, Sokoloff, and Nicholls in 1959. Tables are presented for temperatures at every 1000°K between 1000°K and 24,000°K and for eight densities between ten times normal atmospheric to  $10^{-6}$  times normal. Absorption coefficients are individually listed for each of 14 contributing absorbers. The photon energy range is 0.6-10.7 eV with a partition interval of 0.1 eV.

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## TABLES OF ABSORPTION COEFFICIENTS OF HEATED AIR

The absorption coefficients listed have been averaged over energy intervals of 0.1 eV, with these intervals centered at the corresponding listed energy. Tables are grouped according to temperature and these groups are arranged sequentially with increasing temperature. There are 24 such groups, one for each temperature from 1,000° to 24,000°K at 1,000° intervals. Within each temperature block are eight tables of two pages each with a table for each density; densities are taken at integral powers of ten times normal atmospheric to  $10^{-6}$  times normal. The photon-energy range covered in each table is 10.7–0.6 eV.

The difference in headings on the two pages of each table is a result of the large number of absorbers included in the calculation.

PHOTON ENERGY E.V.	02 S-R RANDS	02 S-R CONT.	N2 R-W NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET	FREF-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
1 10.76 0.	0.	0.	1.08E-08	0.	0.	0.	0.	0.	0.	0.	1.08E-08
2 10.60 0.	0.	0.	3.92E-09	0.	0.	0.	0.	0.	0.	0.	3.92E-09
3 10.50 0.	0.	0.	9.09E-10	0.	0.	0.	0.	0.	0.	0.	9.09E-10
4 10.40 0.	0.	0.	4.66E-10	0.	0.	0.	0.	0.	0.	0.	4.66E-10
5 10.30 0.	0.	0.	1.20E-10	0.	0.	0.	0.	0.	0.	0.	1.20E-10
6 10.20 0.	0.	0.	4.03E-11	0.	0.	0.	0.	0.	0.	0.	4.03E-11
7 10.10 0.	0.	0.	2.33E-11	0.	0.	0.	0.	0.	0.	0.	2.33E-11
8 10.00 0.	0.	0.	2.91E-12	0.	0.	0.	0.	0.	0.	0.	2.91E-12
9 9.90 0.	0.	0.	2.04E-12	0.	0.	0.	0.	0.	0.	0.	2.04E-12
10 9.80 0.	0.	0.	7.44E-13	0.	0.	0.	0.	0.	0.	0.	7.44E-13
11 9.70 0.	0.	0.	9.89E-14	0.	0.	0.	0.	0.	0.	0.	9.89E-14
12 9.60 0.	0.	0.	1.13E-13	0.	0.	0.	0.	0.	0.	0.	1.13E-13
13 9.50 0.	3.72E 01	3.72E 01	1.21E-14	0.	0.	0.	0.	0.	0.	0.	3.72E 01
14 9.40 0.	1.30E 02	1.30E 02	6.32E-15	0.	0.	0.	0.	0.	0.	0.	1.30E 02
15 9.30 0.	2.38E 02	2.38E 02	3.07E-15	0.	0.	0.	0.	0.	0.	0.	2.38E 02
16 9.20 0.	3.38E 02	3.38E 02	1.67E-16	0.	0.	0.	0.	0.	0.	0.	3.38E 02
17 9.10 0.	4.64E 02	4.64E 02	4.77E-16	0.	0.	0.	0.	0.	0.	0.	4.64E 02
18 9.00 0.	5.95E 02	5.95E 02	3.43E-17	0.	0.	0.	0.	0.	0.	0.	5.95E 02
19 8.90 0.	7.26E 02	7.26E 02	2.57E-17	0.	0.	0.	0.	0.	0.	0.	7.26E 02
20 8.80 0.	7.79E 02	7.79E 02	6.95E-18	0.	0.	0.	0.	0.	0.	0.	7.79E 02
21 8.70 0.	7.69E 02	7.69E 02	1.05E-18	0.	0.	0.	0.	0.	0.	0.	7.69E 02
22 8.60 0.	7.60E 02	7.60E 02	1.21E-18	0.	0.	0.	0.	0.	0.	0.	7.60E 02
23 8.50 0.	7.35E 02	7.35E 02	8.34E-20	0.	0.	0.	0.	0.	0.	0.	7.35E 02
24 8.40 0.	6.91E 02	6.91E 02	1.06E-19	0.	0.	0.	0.	0.	0.	0.	6.91E 02
25 8.30 0.	6.40E 02	6.40E 02	9.85E-21	0.	0.	0.	0.	0.	0.	0.	6.40E 02
26 8.20 0.	5.82E 02	5.82E 02	6.51E-21	0.	0.	0.	0.	0.	0.	0.	5.82E 02
27 8.10 0.	5.21E 02	5.21E 02	1.16E-21	0.	0.	0.	0.	0.	0.	0.	5.21E 02
28 8.00 0.	4.60E 02	4.60E 02	4.83E-22	0.	0.	0.	0.	0.	0.	0.	4.60E 02
29 7.90 0.	3.94E 02	3.94E 02	1.20E-22	0.	0.	0.	0.	0.	0.	0.	3.94E 02
30 7.80 0.	3.27E 02	3.27E 02	4.74E-23	0.	0.	0.	0.	0.	0.	0.	3.27E 02
31 7.70 0.	2.68E 02	2.68E 02	1.39E-23	0.	0.	0.	0.	0.	0.	0.	2.68E 02
32 7.60 0.	2.17E 02	2.17E 02	3.41E-24	0.	0.	0.	0.	0.	0.	0.	2.17E 02
33 7.50 0.	1.66E 02	1.66E 02	1.11E-24	0.	3.54E-12	0.	0.	0.	0.	0.	1.66E 02
34 7.40 0.	1.26E 02	1.26E 02	2.47E-25	0.	2.49E-07	0.	0.	0.	0.	0.	1.26E 02
35 7.30 0.	8.95E 01	8.95E 01	7.11E-26	0.	4.83E-06	0.	0.	0.	0.	0.	8.95E 01
36 7.20 0.	6.79E 01	6.79E 01	1.74E-26	0.	4.24E-06	0.	0.	0.	0.	0.	6.79E 01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON 02 S-R	N2	N2	N2+	BETA	NO	GAMMA	VIB-ROT	NO	NO	2	PHOTO-DET	FREE-FREE	N	P.F.	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.												
52	5.60	5.81E-11	0.	0.	0.	8.48E-07	9.83E-03	0.	0.	0.	0.	0.	0.	0.	9.91E-05
53	5.50	0.	0.	0.	0.	4.75E-06	3.76E-03	0.	0.	0.	0.	0.	0.	0.	3.77E-07
54	5.40	0.	0.	0.	0.	2.69E-06	1.51E-06	0.	0.	0.	0.	0.	0.	0.	4.19E-06
55	5.30	0.	0.	0.	0.	7.51E-07	2.61E-04	0.	0.	0.	0.	0.	0.	0.	2.62E-04
56	5.20	0.	0.	0.	0.	4.36E-07	1.77E-04	0.	0.	0.	0.	0.	0.	0.	1.77E-04
57	5.10	0.	0.	0.	0.	1.16E-07	4.60E-06	0.	0.	4.33E-04	0.	0.	0.	0.	4.38E-04
58	5.00	4.55E-05	0.	0.	0.	3.85E-08	2.78E-05	0.	0.	4.50E-04	0.	0.	0.	0.	5.23E-04
59	4.90	3.67E-05	0.	0.	0.	2.38E-08	1.79E-07	0.	0.	4.67E-04	0.	0.	0.	0.	5.06E-04
60	4.80	2.11E-05	0.	0.	0.	3.37E-08	1.88E-06	0.	0.	4.90E-04	0.	0.	0.	0.	5.13E-04
61	4.70	9.60E-06	0.	0.	0.	1.53E-08	8.38E-09	0.	0.	5.16E-04	0.	0.	0.	0.	5.26E-04
62	4.60	4.33E-06	0.	0.	0.	5.09E-09	1.24E-07	0.	0.	5.42E-04	0.	0.	0.	0.	5.47E-04
63	4.50	1.50E-06	0.	0.	0.	2.35E-09	4.20E-10	0.	0.	5.67E-04	0.	0.	0.	0.	5.69E-04
64	4.40	5.17E-07	0.	0.	0.	6.29E-10	6.40E-09	0.	0.	5.94E-04	0.	0.	0.	0.	5.94E-04
65	4.30	2.04E-07	0.	0.	0.	3.13E-10	1.48E-09	0.	0.	6.31E-04	0.	0.	0.	0.	6.31E-04
66	4.20	6.09E-08	0.	0.	0.	8.83E-11	2.34E-10	0.	0.	6.74E-04	0.	0.	0.	0.	6.74E-04
67	4.10	3.34E-08	0.	0.	0.	3.46E-11	2.27E-10	0.	0.	7.21E-04	0.	0.	0.	0.	7.21E-04
68	4.00	8.11E-09	0.	0.	0.	1.33E-11	5.36E-12	0.	0.	7.79E-04	0.	0.	0.	0.	7.79E-04
69	3.90	1.82E-09	0.	0.	0.	3.07E-12	1.53E-11	0.	0.	8.42E-04	0.	0.	0.	0.	8.42E-04
70	3.80	1.27E-09	0.	0.	0.	1.91E-12	0.	0.	0.	9.18E-04	0.	0.	0.	0.	9.18E-04
71	3.70	2.03E-10	0.	0.	0.	2.51E-13	0.	0.	0.	1.00E-03	0.	0.	0.	0.	1.00E-03
72	3.60	7.18E-11	0.	0.	0.	2.19E-13	0.	0.	0.	1.10E-03	0.	0.	0.	0.	1.10E-03
73	3.50	2.87E-11	0.	0.	0.	2.06E-14	0.	0.	0.	1.21E-03	0.	0.	0.	0.	1.21E-03
74	3.40	5.45E-12	0.	0.	0.	1.96E-14	0.	0.	0.	1.34E-03	0.	0.	0.	0.	1.34E-03
75	3.30	1.93E-12	0.	0.	0.	1.80E-15	0.	0.	0.	1.39E-03	0.	0.	0.	0.	1.39E-03
76	3.20	4.90E-13	0.	0.	0.	1.38E-15	0.	0.	0.	1.42E-03	0.	0.	0.	0.	1.42E-03
77	3.10	1.12E-13	0.	0.	0.	1.60E-16	0.	0.	0.	1.43E-03	0.	0.	0.	0.	1.43E-03
78	3.00	3.06E-14	0.	0.	0.	7.92E-17	0.	0.	0.	1.38E-03	0.	0.	0.	0.	1.38E-03
79	2.90	6.95E-15	0.	0.	0.	8.02E-18	0.	0.	0.	1.34E-03	0.	0.	0.	0.	1.34E-03
80	2.80	2.05E-15	0.	0.	0.	1.51E-18	0.	0.	0.	1.24E-03	0.	0.	0.	0.	1.24E-03
81	2.70	2.50E-16	0.	0.	0.	1.56E-20	0.	0.	0.	1.13E-03	0.	0.	0.	0.	1.13E-03
82	2.60	4.84E-18	0.	0.	0.	1.45E-22	0.	0.	0.	1.01E-03	0.	0.	0.	0.	1.01E-03
83	2.50	4.94E-20	0.	0.	0.	1.72E-24	0.	0.	0.	8.75E-04	0.	0.	0.	0.	8.75E-04
84	2.40	0.	0.	0.	0.	1.64E-26	0.	0.	0.	7.56E-04	0.	0.	0.	0.	7.56E-04
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	5.92E-04	0.	0.	0.	0.	5.92E-04
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	4.49E-04	0.	0.	0.	0.	4.49E-04
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	3.28E-04	0.	0.	0.	0.	3.28E-04
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	2.17E-04	0.	0.	0.	0.	2.17E-04
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	1.43E-04	0.	0.	0.	0.	1.43E-04
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	8.32E-05	0.	0.	0.	0.	8.32E-05
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	4.65E-05	0.	0.	0.	0.	4.65E-05
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	2.44E-05	0.	0.	0.	0.	2.44E-05
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	9.97E-06	0.	0.	0.	0.	9.97E-06
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	1.46E-09	0.	0.	0.	0.	0.	0.	1.46E-09
98	1.00	0.	0.	0.	0.	0.	0.	2.21E-12	0.	0.	0.	0.	0.	0.	2.21E-12
99	0.90	0.	0.	0.	0.	0.	0.	1.38E-08	0.	0.	0.	0.	0.	0.	1.38E-08
100	0.80	0.	0.	0.	0.	0.	0.	3.24E-11	0.	0.	0.	0.	0.	0.	3.24E-11
101	0.70	0.	0.	0.	0.	0.	0.	9.34E-08	0.	0.	0.	0.	0.	0.	9.34E-08
102	0.60	0.	0.	0.	0.	0.	0.	8.06E-10	0.	0.	0.	0.	0.	0.	8.06E-10



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES M) 1000. DENSITY (GM/CC) 1.293E-05 (1.0E 00 NORMAL)

PHOTON ENERGY E.V.	02 S-R CONT.	N2 R-W NC. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIN
1 12.20 0.	0.	1.08E-09	0.	0.	0.	0.	0.	0.	0.	1.08E-09
2 10.60 0.	0.	3.92E-10	0.	0.	0.	0.	0.	0.	0.	3.92E-10
3 10.50 0.	0.	9.09E-11	0.	0.	0.	0.	0.	0.	0.	9.09E-11
4 10.40 0.	0.	4.60E-11	0.	0.	0.	0.	0.	0.	0.	4.60E-11
5 10.30 0.	0.	1.20E-11	0.	0.	0.	0.	0.	0.	0.	1.20E-11
6 10.26 0.	0.	4.03E-12	0.	0.	0.	0.	0.	0.	0.	4.03E-12
7 10.16 0.	0.	2.33E-12	0.	0.	0.	0.	0.	0.	0.	2.33E-12
8 10.06 0.	0.	2.01E-13	0.	0.	0.	0.	0.	0.	0.	2.01E-13
9 9.90 0.	0.	2.04E-13	0.	0.	0.	0.	0.	0.	0.	2.04E-13
10 9.70 0.	0.	7.44E-14	0.	0.	0.	0.	0.	0.	0.	7.44E-14
11 9.70 0.	0.	9.39E-15	0.	0.	0.	0.	0.	0.	0.	9.39E-15
12 9.60 0.	0.	1.13E-14	0.	0.	0.	0.	0.	0.	0.	1.13E-14
13 9.50 0.	3.72E 00	1.21E-15	0.	0.	0.	0.	0.	0.	0.	3.72E 00
14 9.40 0.	1.36E 01	6.32E-16	0.	0.	0.	0.	0.	0.	0.	1.36E 01
15 9.30 0.	2.38E 01	3.07E-16	0.	0.	0.	0.	0.	0.	0.	2.38E 01
16 9.20 0.	3.36E 01	1.67E-17	0.	0.	0.	0.	0.	0.	0.	3.36E 01
17 9.10 0.	4.64E 01	4.77E-17	0.	0.	0.	0.	0.	0.	0.	4.64E 01
18 9.00 0.	5.95E 01	3.63E-18	0.	0.	0.	0.	0.	0.	0.	5.95E 01
19 8.90 0.	7.26E 01	2.57E-18	0.	0.	0.	0.	0.	0.	0.	7.26E 01
20 8.80 0.	7.78E 01	6.93E-19	0.	0.	0.	0.	0.	0.	0.	7.78E 01
21 8.70 0.	7.69E 01	1.05E-19	0.	0.	0.	0.	0.	0.	0.	7.69E 01
22 8.60 0.	7.60E 01	1.21E-19	0.	0.	0.	0.	0.	0.	0.	7.60E 01
23 8.50 0.	7.35E 01	8.34E-21	0.	0.	0.	0.	0.	0.	0.	7.35E 01
24 8.40 0.	6.91E 01	1.06E-20	0.	0.	0.	0.	0.	0.	0.	6.91E 01
25 8.30 0.	6.40E 01	9.85E-22	0.	0.	0.	0.	0.	0.	0.	6.40E 01
26 8.20 0.	5.82E 01	6.51E-22	0.	0.	0.	0.	0.	0.	0.	5.82E 01
27 8.10 0.	5.21E 01	1.16E-22	0.	0.	0.	0.	0.	0.	0.	5.21E 01
28 8.00 0.	4.60E 01	4.83E-23	0.	0.	0.	0.	0.	0.	0.	4.60E 01
29 7.90 0.	3.94E 01	1.20E-23	0.	0.	0.	0.	0.	0.	0.	3.94E 01
30 7.80 0.	3.27E 01	4.74E-24	0.	0.	0.	0.	0.	0.	0.	3.27E 01
31 7.70 0.	2.66E 01	1.39E-24	0.	0.	0.	0.	0.	0.	0.	2.66E 01
32 7.60 0.	2.17E 01	3.41E-25	0.	0.	0.	0.	0.	0.	0.	2.17E 01
33 7.50 0.	1.66E 01	1.11E-25	0.	0.	0.	0.	0.	0.	0.	1.66E 01
34 7.40 0.	1.26E 01	2.47E-26	0.	0.	0.	0.	0.	0.	0.	1.26E 01
35 7.36 0.	8.95E 00	7.11E-27	0.	0.	0.	0.	0.	0.	0.	8.95E 00
36 7.20 0.	6.76E 00	1.74E-27	0.	0.	0.	0.	0.	0.	0.	6.76E 00
37 7.16 0.	4.74E 00	4.85E-28	0.	0.	0.	0.	0.	0.	0.	4.74E 00
38 7.00 0.	4.06E-01	0.	0.	0.	0.	0.	0.	0.	0.	4.06E-01
39 6.90 0.	4.40E-01	0.	0.	0.	0.	0.	0.	0.	0.	4.40E-01
40 6.80 0.	2.11E-01	0.	0.	0.	0.	0.	0.	0.	0.	2.11E-01
41 6.70 0.	8.49E-02	0.	0.							

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)														
PHOTON	N2	N2	N2	N2+	BETA	GAMMA	VIB-ROT	NO	NO	2	PHOTO-DET	FREE-FREE	N	P.E.
ENERGY	BANDS	1ST POS.	2ND POS.	1ST NEG.										
52	5.60	5.81E-12	0.	0.	0.48E-08	9.83E-06	0.	0.	0.	0.	0.	0.	0.	9.91E-06
53	5.50	0.	0.	0.	4.75E-07	3.76E-04	0.	0.	0.	0.	0.	0.	0.	3.77E-04
54	5.40	0.	0.	0.	2.69E-07	1.51E-07	0.	0.	0.	0.	0.	0.	0.	4.19E-07
55	5.30	0.	0.	0.	5.51E-08	2.61E-05	0.	0.	0.	0.	0.	0.	0.	2.62E-05
56	5.20	0.	0.	0.	4.36E-08	1.77E-05	0.	0.	0.	0.	0.	0.	0.	1.77E-05
57	5.10	0.	0.	0.	1.16E-08	4.60E-07	0.	0.	0.	0.	0.	0.	0.	1.42E-05
58	5.00	4.55E-06	0.	0.	3.85E-09	2.78E-06	0.	0.	0.	0.	0.	0.	0.	2.16E-05
59	4.90	2.11E-06	0.	0.	2.38E-09	1.79E-06	0.	0.	0.	0.	0.	0.	0.	1.87E-05
60	4.80	3.21E-06	0.	0.	3.37E-09	1.88E-07	0.	0.	0.	0.	0.	0.	0.	1.78E-05
61	4.70	9.60E-07	0.	0.	1.53E-09	8.38E-10	0.	0.	0.	0.	0.	0.	0.	1.73E-05
62	4.60	4.33E-07	0.	0.	5.09E-10	1.24E-08	0.	0.	0.	0.	0.	0.	0.	1.76E-05
63	4.50	1.50E-07	0.	0.	2.35E-10	4.20E-11	0.	0.	0.	0.	0.	0.	0.	1.81E-05
64	4.40	5.17E-08	0.	0.	6.29E-11	6.40E-10	0.	0.	0.	0.	0.	0.	0.	1.88E-05
65	4.30	2.04E-08	0.	0.	3.13E-11	1.48E-10	0.	0.	0.	0.	0.	0.	0.	2.00E-05
66	4.20	6.09E-09	0.	0.	6.83E-12	2.34E-11	0.	0.	0.	0.	0.	0.	0.	2.13E-05
67	4.10	3.34E-09	0.	0.	3.46E-12	2.27E-11	0.	0.	0.	0.	0.	0.	0.	2.28E-05
68	4.00	8.11E-10	0.	0.	1.33E-12	5.36E-13	0.	0.	0.	0.	0.	0.	0.	2.47E-05
69	3.90	1.82E-10	0.	0.	3.07E-13	1.53E-12	0.	0.	0.	0.	0.	0.	0.	2.66E-05
70	3.80	1.27E-10	0.	0.	1.91E-13	0.	0.	0.	0.	0.	0.	0.	0.	2.90E-05
71	3.70	2.03E-11	0.	0.	2.51E-14	0.	0.	0.	0.	0.	0.	0.	0.	3.17E-05
72	3.60	7.18E-12	0.	0.	2.19E-14	0.	0.	0.	0.	0.	0.	0.	0.	3.48E-05
73	3.50	2.87E-12	0.	0.	2.06E-15	0.	0.	0.	0.	0.	0.	0.	0.	3.84E-05
74	3.40	5.45E-13	0.	0.	1.96E-15	0.	0.	0.	0.	0.	0.	0.	0.	4.24E-05
75	3.30	1.93E-13	0.	0.	1.80E-16	0.	0.	0.	0.	0.	0.	0.	0.	4.40E-05
76	3.20	4.90E-14	0.	0.	1.38E-16	0.	0.	0.	0.	0.	0.	0.	0.	4.48E-05
77	3.10	1.12E-14	0.	0.	1.60E-17	0.	0.	0.	0.	0.	0.	0.	0.	4.51E-05
78	3.00	3.06E-15	0.	0.	7.92E-18	0.	0.	0.	0.	0.	0.	0.	0.	4.37E-05
79	2.90	6.95E-16	0.	0.	8.02E-19	0.	0.	0.	0.	0.	0.	0.	0.	4.24E-05
80	2.80	2.05E-16	0.	0.	1.51E-19	0.	0.	0.	0.	0.	0.	0.	0.	3.92E-05
81	2.70	2.50E-17	0.	0.	1.56E-21	0.	0.	0.	0.	0.	0.	0.	0.	3.57E-05
82	2.60	4.84E-19	0.	0.	1.45E-23	0.	0.	0.	0.	0.	0.	0.	0.	3.21E-05
83	2.50	4.94E-21	0.	0.	1.72E-25	0.	0.	0.	0.	0.	0.	0.	0.	2.77E-05
84	2.40	0.	0.	0.	1.64E-27	0.	0.	0.	0.	0.	0.	0.	0.	2.39E-05
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-05
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E-05
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-05
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.83E-06
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.52E-06
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.63E-06
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.47E-06
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.73E-07
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.15E-07
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
1000.				1.293E-04 ( 1.0E-01 NORMAL)				FREE-FREE				N				TOTAL AIR			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)															

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-08 (12.0E-03 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 B-W NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1	10.70 0.	0.	1.00E-11	0.	0.	0.	0.	0.	0.	0.	1.00E-11
2	10.60 0.	0.	3.92E-12	0.	0.	0.	0.	0.	0.	0.	3.92E-12
3	10.50 0.	0.	9.09E-13	0.	0.	0.	0.	0.	0.	0.	9.09E-13
4	10.40 0.	0.	4.66E-13	0.	0.	0.	0.	0.	0.	0.	4.66E-13
5	10.30 0.	0.	1.20E-13	0.	0.	0.	0.	0.	0.	0.	1.20E-13
6	10.20 0.	0.	4.03E-14	0.	0.	0.	0.	0.	0.	0.	4.03E-14
7	10.10 0.	0.	2.33E-14	0.	0.	0.	0.	0.	0.	0.	2.33E-14
8	10.00 0.	0.	2.91E-15	0.	0.	0.	0.	0.	0.	0.	2.91E-15
9	9.90 0.	0.	2.04E-15	0.	0.	0.	0.	0.	0.	0.	2.04E-15
10	9.80 0.	0.	7.44E-16	0.	0.	0.	0.	0.	0.	0.	7.44E-16
11	9.70 0.	0.	9.89E-17	0.	0.	0.	0.	0.	0.	0.	9.89E-17
12	9.60 0.	0.	1.13E-16	0.	0.	0.	0.	0.	0.	0.	1.13E-16
13	9.50 0.	3.72E-02	1.21E-17	0.	0.	0.	0.	0.	0.	0.	3.72E-02
14	9.40 0.	1.30E-01	6.32E-18	0.	0.	0.	0.	0.	0.	0.	1.30E-01
15	9.30 0.	2.30E-01	3.07E-18	0.	0.	0.	0.	0.	0.	0.	2.30E-01
16	9.20 0.	3.30E-01	1.67E-19	0.	0.	0.	0.	0.	0.	0.	3.30E-01
17	9.10 0.	4.44E-01	4.77E-19	0.	0.	0.	0.	0.	0.	0.	4.44E-01
18	9.00 0.	5.95E-01	3.43E-20	0.	0.	0.	0.	0.	0.	0.	5.95E-01
19	8.90 0.	7.26E-01	2.57E-20	0.	0.	0.	0.	0.	0.	0.	7.26E-01
20	8.80 0.	7.70E-01	6.95E-21	0.	0.	0.	0.	0.	0.	0.	7.70E-01
21	8.70 0.	7.69E-01	1.09E-21	0.	0.	0.	0.	0.	0.	0.	7.69E-01
22	8.60 0.	7.60E-01	1.21E-21	0.	0.	0.	0.	0.	0.	0.	7.60E-01
23	8.50 0.	7.35E-01	8.34E-23	0.	0.	0.	0.	0.	0.	0.	7.35E-01
24	8.40 0.	6.91E-01	1.00E-22	0.	0.	0.	0.	0.	0.	0.	6.91E-01
25	8.30 0.	6.40E-01	8.05E-24	0.	0.	0.	0.	0.	0.	0.	6.40E-01
26	8.20 0.	5.92E-01	6.51E-24	0.	0.	0.	0.	0.	0.	0.	5.92E-01
27	8.10 0.	5.21E-01	1.16E-24	0.	0.	0.	0.	0.	0.	0.	5.21E-01
28	8.00 0.	4.60E-01	4.93E-25	0.	0.	0.	0.	0.	0.	0.	4.60E-01
29	7.90 0.	3.94E-01	1.20E-25	0.	0.	0.	0.	0.	0.	0.	3.94E-01
30	7.80 0.	3.27E-01	4.74E-26	0.	0.	0.	0.	0.	0.	0.	3.27E-01
31	7.70 0.	2.66E-01	1.39E-26	0.	0.	0.	0.	0.	0.	0.	2.66E-01
32	7.60 0.	2.17E-01	3.41E-27	0.	0.	0.	0.	0.	0.	0.	2.17E-01
33	7.50 0.	1.66E-01	1.11E-27	0.	0.	0.	0.	0.	0.	0.	1.66E-01
34	7.40 0.	1.26E-01	2.47E-28	0.	0.	0.	0.	0.	0.	0.	1.26E-01
35	7.30 0.	8.95E-02	7.11E-29	0.	0.	0.	0.	0.	0.	0.	8.95E-02
36	7.20 0.	6.79E-02	1.74E-29	0.	0.	0.	0.	0.	0.	0.	6.79E-02
37	7.10 0.	4.74E-02	4.83E-30	0.	0.	0.	0.	0.	0.	0.	4.74E-02
38	7.00 4.06E-03	0.	1.21E-30	0.	0.	0.	0.	0.	0.	0.	4.06E-03
39	6.90 4.40E-03	0.	3.30E-31	0.	0.	0.	0.	0.	0.	0.	4.40E-03
40	6.80 2.11E-03	0.	8.40E-32	0.	0.	0.	0.	0.	0.	0.	2.11E-03
41	6.70 8.49E-04	0.	2.16E-32	0.	0.	0.	0.	0.	0.	0.	8.49E-04
42	6.60 3.60E-04	0.	5.43E-33	0.	0.	0.	0.	0.	0.	0.	3.60E-04
43	6.50 1.12E-04	0.	1.21E-33	0.	0.	0.	0.	0.	0.	0.	1.12E-04
44	6.40 3.29E-05	0.	1.69E-34	0.	0.	0.	0.	0.	0.	0.	3.29E-05
45	6.30 7.32E-06	0.	1.14E-35	0.	0.	0.	0.	0.	0.	0.	7.32E-06
46	6.20 1.18E-06	0.	2.46E-37	1.76E-07	2.36E-06	0.	0.	0.	0.	0.	1.18E-06
47	6.10 1.36E-07	0.	3.03E-39	2.32E-07	2.36E-06	0.	0.	0.	0.	0.	1.36E-07
48	6.00 1.46E-08	0.	0.	2.13E-07	1.71E-08	0.	0.	0.	0.	0.	1.46E-08
49	5.90 8.17E-10	0.	0.	2.02E-07	5.08E-06	0.	0.	0.	0.	0.	8.17E-10
50	5.80 5.32E-11	0.	0.	5.72E-08	1.14E-06	0.	0.	0.	0.	0.	5.32E-11
51	5.70 2.44E-12	0.	0.	4.82E-08	3.35E-08	0.	0.	0.	0.	0.	2.44E-12
			0.	2.94E-08	8.79E-07	0.	0.	0.	0.	0.	8.79E-07
			0.	1.22E-08	7.69E-10	0.	0.	0.	0.	0.	1.22E-08

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-09 (10.0E-03 NORMAL)

PHOTON 02 S-R	N2	N2	N2	BETA	GAMMA	VIB-ROT	NO	NO	0-	FREF-FREE	N	0	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.						PHOTO-DET (IONS)		P.E.	P.E.	
52	5.60	5.81E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.91E-09
53	5.50	0.	0.	4.75E-09	3.76E-06	0.	0.	0.	0.	0.	0.	0.	3.77E-06
54	5.40	0.	0.	2.69E-09	1.51E-09	0.	0.	0.	0.	0.	0.	0.	4.19E-09
55	5.30	0.	0.	7.51E-10	2.61E-07	0.	0.	0.	0.	0.	0.	0.	2.62E-07
56	5.20	0.	0.	4.36E-10	1.77E-07	0.	0.	0.	0.	0.	0.	0.	1.77E-07
57	5.10	0.	0.	1.16E-10	4.60E-09	0.	0.	1.37E-08	0.	0.	0.	0.	1.64E-08
58	5.00	4.55E-08	0.	3.85E-11	2.78E-08	0.	0.	1.42E-08	0.	0.	0.	0.	8.77E-08
59	4.90	3.67E-08	0.	2.38E-11	1.79E-10	0.	0.	1.48E-08	0.	0.	0.	0.	5.37E-08
60	4.80	2.11E-08	0.	3.37E-11	1.88E-09	0.	0.	1.55E-08	0.	0.	0.	0.	3.86E-08
61	4.70	9.60E-09	0.	1.53E-11	8.38E-12	0.	0.	1.63E-08	0.	0.	0.	0.	2.60E-08
62	4.60	4.33E-09	0.	5.09E-12	1.24E-10	0.	0.	1.72E-09	0.	0.	0.	0.	2.16E-08
63	4.50	1.50E-09	0.	2.35E-12	4.20E-13	0.	0.	1.79E-08	0.	0.	0.	0.	1.95E-08
64	4.40	5.17E-10	0.	6.29E-13	6.40E-12	0.	0.	1.88E-08	0.	0.	0.	0.	1.93E-08
65	4.30	2.04E-10	0.	3.13E-13	1.48E-12	0.	0.	2.00E-08	0.	0.	0.	0.	2.02E-08
66	4.20	6.09E-11	0.	8.83E-14	2.34E-13	0.	0.	2.13E-08	0.	0.	0.	0.	2.14E-08
67	4.10	3.34E-11	0.	3.46E-14	2.27E-13	0.	0.	2.28E-08	0.	0.	0.	0.	2.29E-08
68	4.00	8.11E-12	0.	1.33E-14	5.36E-15	0.	0.	2.47E-08	0.	0.	0.	0.	2.47E-08
69	3.90	1.82E-12	0.	3.07E-15	1.53E-14	0.	0.	2.66E-08	0.	0.	0.	0.	2.66E-08
70	3.80	1.27E-12	0.	1.91E-15	0.	0.	0.	2.90E-08	0.	0.	0.	0.	2.90E-08
71	3.70	2.03E-13	0.	2.51E-16	0.	0.	0.	3.17E-08	0.	0.	0.	0.	3.17E-08
72	3.60	7.18E-14	0.	2.19E-16	0.	0.	0.	3.48E-08	0.	0.	0.	0.	3.48E-08
73	3.50	2.87E-14	0.	2.06E-17	0.	0.	0.	3.84E-08	0.	0.	0.	0.	3.84E-08
74	3.40	5.45E-15	0.	1.96E-17	0.	0.	0.	4.24E-08	0.	0.	0.	0.	4.24E-08
75	3.30	1.93E-15	0.	1.88E-18	0.	0.	0.	4.40E-08	0.	0.	0.	0.	4.40E-08
76	3.20	4.90E-16	0.	1.38E-18	0.	0.	0.	4.48E-08	0.	0.	0.	0.	4.48E-08
77	3.10	1.12E-16	0.	1.50E-19	0.	0.	0.	4.51E-08	0.	0.	0.	0.	4.51E-08
78	3.00	3.06E-17	0.	7.92E-20	0.	0.	0.	4.37E-08	0.	0.	0.	0.	4.37E-08
79	2.90	6.95E-18	0.	8.02E-21	0.	0.	0.	4.24E-08	0.	0.	0.	0.	4.24E-08
80	2.80	2.05E-18	0.	1.51E-21	0.	0.	0.	3.92E-08	0.	0.	0.	0.	3.92E-08
81	2.70	2.50E-19	0.	1.56E-23	0.	0.	0.	3.57E-08	0.	0.	0.	0.	3.57E-08
82	2.60	4.84E-21	0.	1.45E-25	0.	0.	0.	3.21E-08	0.	0.	0.	0.	3.21E-08
83	2.50	4.94E-23	0.	1.72E-27	0.	0.	0.	2.77E-08	0.	0.	0.	0.	2.77E-08
84	2.40	0.	0.	1.64E-29	0.	0.	0.	2.39E-08	0.	0.	0.	0.	2.39E-08
85	2.30	0.	0.	0.	0.	0.	0.	1.87E-08	0.	0.	0.	0.	1.87E-08
86	2.20	0.	0.	0.	0.	0.	0.	1.42E-08	0.	0.	0.	0.	1.42E-08
87	2.10	0.	0.	0.	0.	0.	0.	1.04E-08	0.	0.	0.	0.	1.04E-08
88	2.00	0.	0.	0.	0.	0.	0.	6.85E-09	0.	0.	0.	0.	6.85E-09
89	1.90	0.	0.	0.	0.	0.	0.	4.52E-09	0.	0.	0.	0.	4.52E-09
90	1.80	0.	0.	0.	0.	0.	0.	2.63E-09	0.	0.	0.	0.	2.63E-09
91	1.70	0.	0.	0.	0.	0.	0.	1.47E-09	0.	0.	0.	0.	1.47E-09
92	1.60	0.	0.	0.	0.	0.	0.	7.73E-10	0.	0.	0.	0.	7.73E-10
93	1.50	0.	0.	0.	0.	0.	0.	3.16E-10	0.	0.	0.	0.	3.16E-10
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	1.293E-06 (19.0E-04 NORMAL)
1030.		

PHOTON ENERGY E.V.	02 S-R CONT.	N2 B-W NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	0.	1.00E-12	0.	0.	0.	0.	0.	0.	0.	1.00E-12
2 10.60 0.	0.	3.92E-13	0.	0.	0.	0.	0.	0.	0.	3.92E-13
3 10.50 0.	0.	9.09E-14	0.	0.	0.	0.	0.	0.	0.	9.09E-14
4 10.40 0.	0.	4.66E-14	0.	0.	0.	0.	0.	0.	0.	4.66E-14
5 10.30 0.	0.	1.20E-14	0.	0.	0.	0.	0.	0.	0.	1.20E-14
6 10.20 0.	0.	4.03E-15	0.	0.	0.	0.	0.	0.	0.	4.03E-15
7 10.10 0.	0.	2.33E-15	0.	0.	0.	0.	0.	0.	0.	2.33E-15
8 10.00 0.	0.	2.91E-16	0.	0.	0.	0.	0.	0.	0.	2.91E-16
9 9.90 0.	0.	2.04E-16	0.	0.	0.	0.	0.	0.	0.	2.04E-16
10 9.80 0.	0.	7.44E-17	0.	0.	0.	0.	0.	0.	0.	7.44E-17
11 9.70 0.	0.	9.89E-18	0.	0.	0.	0.	0.	0.	0.	9.89E-18
12 9.60 0.	0.	1.13E-17	0.	0.	0.	0.	0.	0.	0.	1.13E-17
13 9.50 0.	3.72E-03	1.21E-18	0.	0.	0.	0.	0.	0.	0.	3.72E-03
14 9.40 0.	1.38E-02	6.32E-19	0.	0.	0.	0.	0.	0.	0.	1.38E-02
15 9.30 0.	2.38E-02	3.07E-19	0.	0.	0.	0.	0.	0.	0.	2.38E-02
16 9.20 0.	3.38E-02	1.67E-20	0.	0.	0.	0.	0.	0.	0.	3.38E-02
17 9.10 0.	4.64E-02	4.77E-20	0.	0.	0.	0.	0.	0.	0.	4.64E-02
18 9.00 0.	5.95E-02	3.43E-21	0.	0.	0.	0.	0.	0.	0.	5.95E-02
19 8.90 0.	7.16E-02	2.57E-21	0.	0.	0.	0.	0.	0.	0.	7.16E-02
20 8.80 0.	7.78E-02	6.95E-22	0.	0.	0.	0.	0.	0.	0.	7.78E-02
21 8.70 0.	7.69E-02	1.05E-22	0.	0.	0.	0.	0.	0.	0.	7.69E-02
22 8.60 0.	7.60E-02	1.21E-22	0.	0.	0.	0.	0.	0.	0.	7.60E-02
23 8.50 0.	7.35E-02	8.34E-24	0.	0.	0.	0.	0.	0.	0.	7.35E-02
24 8.40 0.	6.91E-02	1.06E-23	0.	0.	0.	0.	0.	0.	0.	6.91E-02
25 8.30 0.	6.40E-02	9.85E-25	0.	0.	0.	0.	0.	0.	0.	6.40E-02
26 8.20 0.	5.82E-02	6.51E-25	0.	0.	0.	0.	0.	0.	0.	5.82E-02
27 8.10 0.	5.21E-02	1.16E-25	0.	0.	0.	0.	0.	0.	0.	5.21E-02
28 8.00 0.	4.60E-02	4.83E-26	0.	0.	0.	0.	0.	0.	0.	4.60E-02
29 7.90 0.	3.94E-02	1.20E-26	0.	0.	0.	0.	0.	0.	0.	3.94E-02
30 7.80 0.	3.27E-02	4.74E-27	0.	0.	0.	0.	0.	0.	0.	3.27E-02
31 7.70 0.	2.68E-02	1.39E-27	0.	0.	0.	0.	0.	0.	0.	2.68E-02
32 7.60 0.	2.17E-02	3.41E-28	0.	0.	0.	0.	0.	0.	0.	2.17E-02
33 7.50 0.	1.66E-02	1.11E-28	0.	0.	0.	0.	0.	0.	0.	1.66E-02
34 7.40 0.	1.26E-02	2.47E-29	0.	0.	0.	0.	0.	0.	0.	1.26E-02
35 7.30 0.	8.95E-03	7.11E-30	0.	0.	0.	0.	0.	0.	0.	8.95E-03
36 7.20 0.	6.79E-03	1.74E-30	0.	0.	0.	0.	0.	0.	0.	6.79E-03
37 7.10 0.	4.74E-03	4.85E-31	0.	0.	0.	0.	0.	0.	0.	4.74E-03
38 7.00 0.	4.06E-04	1.21E-31	0.	0.	0.	0.	0.	0.	0.	4.06E-04
39 6.90 0.	4.40E-04	3.30E-32	0.	0.	0.	0.	0.	0.	0.	4.40E-04
40 6.80 0.	2.11E-04	8.40E-33	0.	0.	0.	0.	0.	0.	0.	2.11E-04
41 6.70 0.	6.49E-05	2.16E-33	0.	0.	0.	0.	0.	0.	0.	6.49E-05

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N0 BETA	N0 GAMMA	N0 VIB-ROT	N0 2	0- PHOTO-BET (IONS)	FREE-FREE (IONS)	N P.E.	D P.E.	TOTAL AIR
52	5.60 5.81E-15	0.	0.	6.40E-11	9.83E-09	0.	0.	0.	0.	0.	3.	9.91E-09
53	5.50 0.	0.	0.	4.75E-10	3.76E-07	0.	0.	0.	0.	0.	0.	3.77E-07
54	5.40 0.	0.	0.	2.69E-10	1.51E-10	0.	0.	0.	0.	0.	0.	4.19E-10
55	5.30 0.	0.	0.	7.51E-11	2.61E-08	0.	0.	0.	0.	0.	0.	2.62E-08
56	5.20 0.	0.	0.	4.36E-11	1.77E-08	0.	0.	0.	0.	0.	0.	1.77E-08
57	5.10 0.	0.	0.	1.16E-11	4.60E-10	0.	4.33E-10	0.	0.	0.	0.	9.05E-10
58	5.00 4.55E-09	0.	0.	1.85E-12	2.70E-09	0.	4.50E-10	0.	0.	0.	0.	7.79E-09
59	4.90 3.87E-09	0.	0.	2.30E-12	1.79E-11	0.	4.67E-10	0.	0.	0.	0.	4.36E-09
60	4.80 2.11E-09	0.	0.	3.37E-12	1.80E-13	0.	4.90E-10	0.	0.	0.	0.	2.79E-09
61	4.70 9.60E-10	0.	0.	1.53E-12	8.30E-13	0.	5.16E-10	0.	0.	0.	0.	1.40E-09
62	4.60 4.33E-10	0.	0.	5.09E-13	1.24E-11	0.	5.42E-10	0.	0.	0.	0.	9.88E-10
63	4.50 1.50E-10	0.	0.	2.35E-13	4.28E-14	0.	5.67E-10	0.	0.	0.	0.	7.10E-10
64	4.40 5.17E-11	0.	0.	6.29E-14	6.40E-13	0.	5.94E-10	0.	0.	0.	0.	6.40E-10
65	4.30 2.04E-11	0.	0.	3.13E-14	1.40E-13	0.	6.31E-10	0.	0.	0.	0.	6.51E-10
66	4.20 6.09E-12	0.	0.	8.83E-15	2.34E-14	0.	6.74E-10	0.	0.	0.	0.	6.80E-10
67	4.10 3.34E-12	0.	0.	3.44E-15	2.27E-14	0.	7.21E-10	0.	0.	0.	0.	7.25E-10
68	4.00 8.11E-13	0.	0.	1.33E-15	5.36E-16	0.	7.79E-10	0.	0.	0.	0.	7.80E-10
69	3.90 1.82E-13	0.	0.	3.07E-16	1.53E-15	0.	8.42E-10	0.	0.	0.	0.	8.42E-10
70	3.80 1.27E-13	0.	0.	1.91E-16	0.	0.	9.18E-10	0.	0.	0.	0.	9.18E-10
71	3.70 2.03E-14	0.	0.	2.51E-17	0.	0.	1.00E-09	0.	0.	0.	0.	1.00E-09
72	3.60 7.19E-15	0.	0.	2.19E-17	0.	0.	1.10E-09	0.	0.	0.	0.	1.10E-09
73	3.50 2.87E-15	0.	0.	2.06E-18	0.	0.	1.21E-09	0.	0.	0.	0.	1.21E-09
74	3.40 5.45E-16	0.	0.	1.96E-18	0.	0.	1.34E-09	0.	0.	0.	0.	1.34E-09
75	3.30 1.93E-16	0.	0.	1.80E-19	0.	0.	1.39E-09	0.	0.	0.	0.	1.39E-09
76	3.20 4.90E-17	0.	0.	1.38E-19	0.	0.	1.42E-09	0.	0.	0.	0.	1.42E-09
77	3.10 1.12E-17	0.	0.	1.60E-20	0.	0.	1.43E-09	0.	0.	0.	0.	1.43E-09
78	3.00 3.04E-18	0.	0.	7.92E-21	0.	0.	1.38E-09	0.	0.	0.	0.	1.38E-09
79	2.90 6.95E-19	0.	0.	8.02E-22	0.	0.	1.34E-09	0.	0.	0.	0.	1.34E-09
80	2.80 2.05E-19	0.	0.	1.51E-22	0.	0.	1.24E-09	0.	0.	0.	0.	1.24E-09
81	2.70 2.50E-20	0.	0.	1.56E-24	0.	0.	1.13E-09	0.	0.	0.	0.	1.13E-09
82	2.60 4.84E-22	0.	0.	1.45E-26	0.	0.	1.01E-09	0.	0.	0.	0.	1.01E-09
83	2.50 4.94E-24	0.	0.	1.72E-28	0.	0.	8.75E-10	0.	0.	0.	0.	8.75E-10
84	2.40 0.	0.	0.	1.64E-30	0.	0.	7.56E-10	0.	0.	0.	0.	7.56E-10
85	2.30 0.	0.	0.	0.	0.	0.	5.92E-10	0.	0.	0.	0.	5.92E-10
86	2.20 0.	0.	0.	0.	0.	0.	4.49E-10	0.	0.	0.	0.	4.49E-10
87	2.10 0.	0.	0.	0.	0.	0.	3.28E-10	0.	0.	0.	0.	3.28E-10
88	2.00 0.	0.	0.	0.	0.	0.	2.17E-10	0.	0.	0.	0.	2.17E-10
89	1.90 0.	0.	0.	0.	0.	0.	1.43E-10	0.	0.	0.	0.	1.43E-10
90	1.80 0.	0.	0.	0.	0.	0.	8.32E-11	0.	0.	0.	0.	8.32E-11
91	1.70 0.	0.	0.	0.	0.	0.	4.65E-11	0.	0.	0.	0.	4.65E-11
92	1.50 0.	0.	0.	0.	0.	0.	2.44E-11	0.	0.	0.	0.	2.44E-11
93	1.50 0.	0.	0.	0.	0.	0.	9.97E-12	0.	0.	0.	0.	9.97E-12
94	1.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10 0.	0.	0.	0.	0.	0.	1.46E-13	0.	0.	0.	0.	1.46E-13
98	1.00 0.	0.	0.	0.	0.	0.	2.21E-16	0.	0.	0.	0.	2.21E-16
99	0.90 0.	0.	0.	0.	0.	0.	1.38E-12	0.	0.	0.	0.	1.38E-12
100	0.80 0.	0.	0.	0.	0.	0.	3.24E-13	0.	0.	0.	0.	3.24E-13
101	0.70 0.	0.	0.	0.	0.	0.	9.34E-12	0.	0.	0.	0.	9.34E-12
102	0.60 0.	0.	0.	0.	0.	0.	8.06E-14	0.	0.	0.	0.	8.06E-14



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-07 (10.0E-03 NORMAL)

PHOTON ENERGY E.V.	02 S-R RANDBS	02 S-R CONT.	N2 O-H NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	1.00E-13	0.	1.00E-13	0.	0.	0.	0.	0.	0.	0.	1.00E-13
2 10.60 0.	3.92E-14	0.	3.92E-14	0.	0.	0.	0.	0.	0.	0.	3.92E-14
3 10.50 0.	9.09E-15	0.	9.09E-15	0.	0.	0.	0.	0.	0.	0.	9.09E-15
4 10.40 0.	4.66E-15	0.	4.66E-15	0.	0.	0.	0.	0.	0.	0.	4.66E-15
5 10.30 0.	1.20E-15	0.	1.20E-15	0.	0.	0.	0.	0.	0.	0.	1.20E-15
6 10.20 0.	4.03E-16	0.	4.03E-16	0.	0.	0.	0.	0.	0.	0.	4.03E-16
7 10.10 0.	2.33E-16	0.	2.33E-16	0.	0.	0.	0.	0.	0.	0.	2.33E-16
8 10.00 0.	2.91E-17	0.	2.91E-17	0.	0.	0.	0.	0.	0.	0.	2.91E-17
9 9.90 0.	2.04E-17	0.	2.04E-17	0.	0.	0.	0.	0.	0.	0.	2.04E-17
10 9.80 0.	7.44E-18	0.	7.44E-18	0.	0.	0.	0.	0.	0.	0.	7.44E-18
11 9.70 0.	9.89E-19	0.	9.89E-19	0.	0.	0.	0.	0.	0.	0.	9.89E-19
12 9.60 0.	1.13E-18	0.	1.13E-18	0.	0.	0.	0.	0.	0.	0.	1.13E-18
13 9.50 0.	1.21E-19	3.72E-04	1.21E-19	0.	0.	0.	0.	0.	0.	0.	3.72E-04
14 9.40 0.	1.38E-03	1.38E-03	6.32E-20	0.	0.	0.	0.	0.	0.	0.	1.38E-03
15 9.30 0.	2.38E-03	2.38E-03	3.07E-20	0.	0.	0.	0.	0.	0.	0.	2.38E-03
16 9.20 0.	3.38E-03	3.38E-03	1.67E-21	0.	0.	0.	0.	0.	0.	0.	3.38E-03
17 9.10 0.	4.64E-03	4.64E-03	4.77E-21	0.	0.	0.	0.	0.	0.	0.	4.64E-03
18 9.00 0.	5.95E-03	5.95E-03	3.43E-22	0.	0.	0.	0.	0.	0.	0.	5.95E-03
19 8.90 0.	7.26E-03	7.26E-03	2.57E-22	0.	0.	0.	0.	0.	0.	0.	7.26E-03
20 8.80 0.	7.78E-03	7.78E-03	6.95E-23	0.	0.	0.	0.	0.	0.	0.	7.78E-03
21 8.70 0.	7.69E-03	7.69E-03	1.05E-23	0.	0.	0.	0.	0.	0.	0.	7.69E-03
22 8.60 0.	7.60E-03	7.60E-03	1.21E-23	0.	0.	0.	0.	0.	0.	0.	7.60E-03
23 8.50 0.	7.35E-03	7.35E-03	8.34E-25	0.	0.	0.	0.	0.	0.	0.	7.35E-03
24 8.40 0.	6.91E-03	6.91E-03	1.06E-24	0.	0.	0.	0.	0.	0.	0.	6.91E-03
25 8.30 0.	6.40E-03	6.40E-03	9.05E-25	0.	0.	0.	0.	0.	0.	0.	6.40E-03
26 8.20 0.	5.82E-03	5.82E-03	6.51E-26	0.	0.	0.	0.	0.	0.	0.	5.82E-03
27 8.10 0.	5.21E-03	5.21E-03	1.16E-26	0.	0.	0.	0.	0.	0.	0.	5.21E-03
28 8.00 0.	4.60E-03	4.60E-03	4.83E-27	0.	0.	0.	0.	0.	0.	0.	4.60E-03
29 7.90 0.	3.94E-03	3.94E-03	1.20E-27	0.	0.	0.	0.	0.	0.	0.	3.94E-03
30 7.80 0.	3.27E-03	3.27E-03	4.74E-28	0.	0.	0.	0.	0.	0.	0.	3.27E-03
31 7.70 0.	2.68E-03	2.68E-03	1.39E-28	0.	0.	0.	0.	0.	0.	0.	2.68E-03
32 7.60 0.	2.17E-03	2.17E-03	3.41E-29	0.	0.	0.	0.	0.	0.	0.	2.17E-03
33 7.50 0.	1.66E-03	1.66E-03	1.11E-29	0.	0.	0.	0.	0.	0.	0.	1.66E-03
34 7.40 0.	1.26E-03	1.26E-03	2.47E-30	0.	0.	0.	0.	0.	0.	0.	1.26E-03
35 7.30 0.	8.95E-04	8.95E-04	7.11E-31	0.	0.	0.	0.	0.	0.	0.	8.95E-04
36 7.20 0.	6.79E-04	6.79E-04	1.74E-31	0.	0.	0.	0.	0.	0.	0.	6.79E-04
37 7.10 0.	4.74E-04	4.74E-04	4.85E-32	0.	0.	0.	0.	0.	0.	0.	4.74E-04
38 7.00 4.06E-05	0.	0.	1.21E-32	0.	0.	0.	0.	0.	0.	0.	4.06E-05
39 6.90 4.40E-05	0.	0.	3.30E-33	0.	0.	0.	0.	0.	0.	0.	4.40E-05
40 6.80 2.11E-05	0.	0.	8.40E-34	0.	0.	0.	0.	0.	0.	0.	2.11E-05
41 6.70 8.49E-06	0.	0.	2.16E-34	0.	0.	0.	0.	0.	0.	0.	8.49E-06
42 6.60 3.68E-06	0.	0.	5.43E-35	0.	0.	0.	0.	0.	0.	0.	3.68E-06
43 6.50 1.12E-06	0.	0.	1.21E-35	0.	0.	0.	0.	0.	0.	0.	1.12E-06
44 6.40 3.29E-07	0.	0.	1.66E-36	1.74E-09	5.39E-11	0.	0.	0.	0.	0.	3.29E-07
45 6.30 7.32E-08	0.	0.	1.14E-37	2.32E-09	2.36E-09	0.	0.	0.	0.	0.	7.32E-08
46 6.20 1.18E-08	0.	0.	2.40E-39	2.13E-09	1.71E-10	0.	0.	0.	0.	0.	1.18E-08
47 6.10 1.36E-09	0.	0.	0.	2.02E-09	5.08E-09	0.	0.	0.	0.	0.	1.36E-09
48 6.00 1.46E-10	0.	0.	0.	5.72E-10	1.14E-09	0.	0.	0.	0.	0.	1.46E-10
49 5.90 8.17E-12	0.	0.	0.	4.82E-10	3.35E-10	0.	0.	0.	0.	0.	8.17E-12
50 5.80 5.32E-13	0.	0.	0.	2.94E-10	8.79E-09	0.	0.	0.	0.	0.	5.32E-13
51 5.70 2.44E-14	0.	0.	0.	1.22E-10	7.69E-12	0.	0.	0.	0.	0.	2.44E-14

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-07 (10.0E-03 NORMAL)

PHOTON ENERGY E.V.	02 S-R RANDBS	02 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.		0.	1.00E-13	0.	0.	0.	0.	0.	0.	0.	1.00E-13
2 10.60 0.		0.	3.92E-14	0.	0.	0.	0.	0.	0.	0.	3.92E-14
3 10.50 0.		0.	9.09E-15	0.	0.	0.	0.	0.	0.	0.	9.09E-15
4 10.40 0.		0.	4.66E-15	0.	0.	0.	0.	0.	0.	0.	4.66E-15
5 10.30 0.		0.	1.20E-15	0.	0.	0.	0.	0.	0.	0.	1.20E-15
6 10.20 0.		0.	4.03E-16	0.	0.	0.	0.	0.	0.	0.	4.03E-16
7 10.10 0.		0.	2.33E-16	0.	0.	0.	0.	0.	0.	0.	2.33E-16
8 10.00 0.		0.	2.91E-17	0.	0.	0.	0.	0.	0.	0.	2.91E-17
9 9.90 0.		0.	2.04E-17	0.	0.	0.	0.	0.	0.	0.	2.04E-17
10 9.80 0.		0.	7.44E-18	0.	0.	0.	0.	0.	0.	0.	7.44E-18
11 9.70 0.		0.	9.09E-19	0.	0.	0.	0.	0.	0.	0.	9.09E-19
12 9.60 0.		0.	1.13E-19	0.	0.	0.	0.	0.	0.	0.	1.13E-19
13 9.50 0.		3.72E-04	1.21E-19	0.	0.	0.	0.	0.	0.	0.	3.72E-04
14 9.40 0.		1.38E-03	6.32E-20	0.	0.	0.	0.	0.	0.	0.	1.38E-03
15 9.30 0.		2.38E-03	3.07E-20	0.	0.	0.	0.	0.	0.	0.	2.38E-03
16 9.20 0.		3.38E-03	1.67E-21	0.	0.	0.	0.	0.	0.	0.	3.38E-03
17 9.10 0.		4.44E-03	4.77E-21	0.	0.	0.	0.	0.	0.	0.	4.44E-03
18 9.00 0.		5.95E-03	3.43E-22	0.	0.	0.	0.	0.	0.	0.	5.95E-03
19 8.90 0.		7.26E-03	2.57E-22	0.	0.	0.	0.	0.	0.	0.	7.26E-03
20 8.80 0.		7.78E-03	6.95E-23	0.	0.	0.	0.	0.	0.	0.	7.78E-03
21 8.70 0.		7.69E-03	1.05E-23	0.	0.	0.	0.	0.	0.	0.	7.69E-03
22 8.60 0.		7.60E-03	1.21E-23	0.	0.	0.	0.	0.	0.	0.	7.60E-03
23 8.50 0.		7.35E-03	8.34E-25	0.	0.	0.	0.	0.	0.	0.	7.35E-03
24 8.40 0.		6.91E-03	1.06E-24	0.	0.	0.	0.	0.	0.	0.	6.91E-03
25 8.30 0.		6.40E-03	9.05E-25	0.	0.	0.	0.	0.	0.	0.	6.40E-03
26 8.20 0.		5.82E-03	6.51E-26	0.	0.	0.	0.	0.	0.	0.	5.82E-03
27 8.10 0.		5.21E-03	1.16E-26	0.	0.	0.	0.	0.	0.	0.	5.21E-03
28 8.00 0.		4.60E-03	4.83E-27	0.	0.	0.	0.	0.	0.	0.	4.60E-03
29 7.90 0.		3.94E-03	1.20E-27	0.	0.	0.	0.	0.	0.	0.	3.94E-03
30 7.80 0.		3.27E-03	4.74E-28	0.	0.	0.	0.	0.	0.	0.	3.27E-03
31 7.70 0.		2.68E-03	1.39E-28	0.	0.	0.	0.	0.	0.	0.	2.68E-03
32 7.60 0.		2.17E-03	3.41E-29	0.	0.	0.	0.	0.	0.	0.	2.17E-03
33 7.50 0.		1.66E-03	1.11E-29	0.	0.	0.	0.	0.	0.	0.	1.66E-03
34 7.40 0.		1.26E-03	2.47E-30	0.	0.	0.	0.	0.	0.	0.	1.26E-03
35 7.30 0.		8.95E-04	7.11E-31	0.	0.	0.	0.	0.	0.	0.	8.95E-04
36 7.20 0.		6.79E-04	1.74E-31	0.	0.	0.	0.	0.	0.	0.	6.79E-04
37 7.10 0.		4.74E-04	4.85E-32	0.	0.	0.	0.	0.	0.	0.	4.74E-04
38 7.00 0.	4.06E-05	0.	1.21E-32	0.	0.	0.	0.	0.	0.	0.	4.06E-05
39 6.90 0.	4.40E-05	0.	3.30E-33	0.	0.	0.	0.	0.	0.	0.	4.40E-05
40 6.80 0.	2.11E-05	0.	8.40E-34	0.	0.	0.	0.	0.	0.	0.	2.11E-05
41 6.70 0.	8.49E-06	0.	2.16E-34	0.	0.	0.	0.	0.	0.	0.	8.49E-06
42 6.60 0.	3.68E-06	0.	5.43E-35	0.	0.	0.	0.	0.	0.	0.	3.68E-06
43 6.50 0.	1.12E-06	0.	1.21E-35	0.	0.	0.	0.	0.	0.	0.	1.12E-06
44 6.40 0.	3.29E-07	0.	1.66E-36	0.	0.	0.	0.	0.	0.	0.	3.29E-07
45 6.30 0.	7.32E-08	0.	1.14E-37	0.	0.	0.	0.	0.	0.	0.	7.32E-08
46 6.20 0.	1.16E-08	0.	2.46E-39	0.	0.	0.	0.	0.	0.	0.	1.16E-08
47 6.10 0.	1.36E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.36E-09
48 6.00 0.	1.46E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-10
49 5.90 0.	8.17E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.17E-12
50 5.80 0.	5.32E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.32E-13
51 5.70 0.	2.44E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.44E-14

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON 02 S-R		TEMPERATURE (DEGREES K)		1000.		DENSITY (GM/CC)		1.293E-07		(10.0E-05 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
ENERGY	RANDS	N2	1ST POS.	2ND POS.	N2	N2+	BETA	NO	GAMMA	NO	VIB-ROT	2	PHOTO-DET (INNS)	0	P.E.	0	P.E.	0	P.E.
52	5.60	5.81E-16	0.	0.	0.	0.	0.40E-12	9.83E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.91E-10	0.
53	5.50	0.	0.	0.	0.	0.	4.75E-11	3.76E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.77E-08	0.
54	5.40	0.	0.	0.	0.	0.	2.69E-11	1.51E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.19E-11	0.
55	5.30	0.	0.	0.	0.	0.	7.51E-12	2.61E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.62E-09	0.
56	5.20	0.	0.	0.	0.	0.	4.36E-12	1.77E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.77E-09	0.
57	5.10	0.	0.	0.	0.	0.	1.16E-12	4.60E-11	0.	1.37E-11	0.	0.	0.	0.	0.	0.	0.	6.09E-11	0.
58	5.00	4.55E-10	0.	0.	0.	0.	3.85E-13	2.70E-10	0.	1.42E-11	0.	0.	0.	0.	0.	0.	0.	7.49E-10	0.
59	4.90	3.87E-10	0.	0.	0.	0.	2.30E-13	1.79E-12	0.	1.48E-11	0.	0.	0.	0.	0.	0.	0.	4.04E-10	0.
60	4.80	2.11E-10	0.	0.	0.	0.	3.37E-13	1.08E-11	0.	1.55E-11	0.	0.	0.	0.	0.	0.	0.	2.46E-10	0.
61	4.70	9.60E-11	0.	0.	0.	0.	1.53E-13	0.30E-14	0.	1.63E-11	0.	0.	0.	0.	0.	0.	0.	1.13E-10	0.
62	4.60	4.33E-11	0.	0.	0.	0.	5.09E-14	1.24E-12	0.	1.72E-11	0.	0.	0.	0.	0.	0.	0.	6.10E-11	0.
63	4.50	1.50E-11	0.	0.	0.	0.	2.35E-14	4.20E-13	0.	1.79E-11	0.	0.	0.	0.	0.	0.	0.	3.30E-11	0.
64	4.40	5.17E-12	0.	0.	0.	0.	6.29E-15	6.40E-14	0.	1.88E-11	0.	0.	0.	0.	0.	0.	0.	2.40E-11	0.
65	4.30	2.04E-12	0.	0.	0.	0.	3.13E-15	1.48E-14	0.	2.00E-11	0.	0.	0.	0.	0.	0.	0.	2.20E-11	0.
66	4.20	6.09E-13	0.	0.	0.	0.	0.83E-16	2.34E-15	0.	2.13E-11	0.	0.	0.	0.	0.	0.	0.	2.19E-11	0.
67	4.10	3.34E-13	0.	0.	0.	0.	3.46E-16	2.27E-15	0.	2.28E-11	0.	0.	0.	0.	0.	0.	0.	2.32E-11	0.
68	4.00	8.11E-14	0.	0.	0.	0.	1.33E-16	5.36E-17	0.	2.47E-11	0.	0.	0.	0.	0.	0.	0.	2.47E-11	0.
69	3.90	1.82E-14	0.	0.	0.	0.	3.07E-17	1.53E-13	0.	2.66E-11	0.	0.	0.	0.	0.	0.	0.	2.67E-11	0.
70	3.80	1.27E-14	0.	0.	0.	0.	1.91E-17	0.	0.	2.90E-11	0.	0.	0.	0.	0.	0.	0.	2.91E-11	0.
71	3.70	2.03E-15	0.	0.	0.	0.	2.51E-18	0.	0.	3.17E-11	0.	0.	0.	0.	0.	0.	0.	3.17E-11	0.
72	3.60	7.18E-16	0.	0.	0.	0.	2.19E-18	0.	0.	3.48E-11	0.	0.	0.	0.	0.	0.	0.	3.48E-11	0.
73	3.50	2.87E-16	0.	0.	0.	0.	2.06E-19	0.	0.	3.84E-11	0.	0.	0.	0.	0.	0.	0.	3.84E-11	0.
74	3.40	5.45E-17	0.	0.	0.	0.	1.96E-19	0.	0.	4.24E-11	0.	0.	0.	0.	0.	0.	0.	4.24E-11	0.
75	3.30	1.93E-17	0.	0.	0.	0.	1.80E-20	0.	0.	4.40E-11	0.	0.	0.	0.	0.	0.	0.	4.40E-11	0.
76	3.20	4.90E-18	0.	0.	0.	0.	1.30E-20	0.	0.	4.48E-11	0.	0.	0.	0.	0.	0.	0.	4.48E-11	0.
77	3.10	1.12E-18	0.	0.	0.	0.	1.60E-21	0.	0.	4.51E-11	0.	0.	0.	0.	0.	0.	0.	4.51E-11	0.
78	3.00	3.06E-19	0.	0.	0.	0.	7.92E-22	0.	0.	4.37E-11	0.	0.	0.	0.	0.	0.	0.	4.37E-11	0.
79	2.90	6.95E-20	0.	0.	0.	0.	8.02E-23	0.	0.	4.24E-11	0.	0.	0.	0.	0.	0.	0.	4.24E-11	0.
80	2.80	2.05E-20	0.	0.	0.	0.	1.51E-23	0.	0.	3.92E-11	0.	0.	0.	0.	0.	0.	0.	3.92E-11	0.
81	2.70	2.50E-21	0.	0.	0.	0.	1.56E-25	0.	0.	3.57E-11	0.	0.	0.	0.	0.	0.	0.	3.57E-11	0.
82	2.60	4.84E-23	0.	0.	0.	0.	1.45E-27	0.	0.	3.21E-11	0.	0.	0.	0.	0.	0.	0.	3.21E-11	0.
83	2.50	4.94E-25	0.	0.	0.	0.	1.72E-29	0.	0.	2.77E-11	0.	0.	0.	0.	0.	0.	0.	2.77E-11	0.
84	2.40	0.	0.	0.	0.	0.	1.64E-31	0.	0.	2.39E-11	0.	0.	0.	0.	0.	0.	0.	2.39E-11	0.
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-11	0.	0.	0.	0.	0.	0.	0.	1.87E-11	0.
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	1.42E-11	0.	0.	0.	0.	0.	0.	0.	1.42E-11	0.
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-11	0.	0.	0.	0.	0.	0.	0.	1.04E-11	0.
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	6.85E-12	0.	0.	0.	0.	0.	0.	0.	6.85E-12	0.
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	4.52E-12	0.	0.	0.	0.	0.	0.	0.	4.52E-12	0.
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	2.63E-12	0.	0.	0.	0.	0.	0.	0.	2.63E-12	0.
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	1.47E-12	0.	0.	0.	0.	0.	0.	0.	1.47E-12	0.
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	7.73E-13	0.	0.	0.	0.	0.	0.	0.	7.73E-13	0.
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	3.15E-13	0.	0.	0.	0.	0.	0.	0.	3.15E-13	0.
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-14	0.	0.	0.	0.	0.	0.	0.	1.46E-14	0.
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	2.21E-17	0.	0.	0.	0.	0.	0.	0.	2.21E-17	0.
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-13	0.	0.	0.	0.	0.	0.	0.	1.30E-13	0.
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	3.24E-16	0.	0.	0.	0.	0.	0.	0.	3.24E-16	0.
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	9.34E-13	0.	0.	0.	0.	0.	0.	0.	9.34E-13	0.
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	9.06E-15	0.	0.	0.	0.	0.	0.	0.	9.06E-15	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-08 (1.0E-03 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R COMT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	1.00E-14	0.	1.00E-14	0.	0.	0.	0.	0.	0.	0.	1.00E-14
2 10.60 0.	3.92E-15	0.	3.92E-15	0.	0.	0.	0.	0.	0.	0.	3.92E-15
3 10.50 0.	9.09E-16	0.	9.09E-16	0.	0.	0.	0.	0.	0.	0.	9.09E-16
4 10.40 0.	4.66E-16	0.	4.66E-16	0.	0.	0.	0.	0.	0.	0.	4.66E-16
5 10.30 0.	1.20E-16	0.	1.20E-16	0.	0.	0.	0.	0.	0.	0.	1.20E-16
6 10.20 0.	4.03E-17	0.	4.03E-17	0.	0.	0.	0.	0.	0.	0.	4.03E-17
7 10.10 0.	2.33E-17	0.	2.33E-17	0.	0.	0.	0.	0.	0.	0.	2.33E-17
8 10.00 0.	2.91E-18	0.	2.91E-18	0.	0.	0.	0.	0.	0.	0.	2.91E-18
9 9.90 0.	2.04E-18	0.	2.04E-18	0.	0.	0.	0.	0.	0.	0.	2.04E-18
10 9.80 0.	7.44E-19	0.	7.44E-19	0.	0.	0.	0.	0.	0.	0.	7.44E-19
11 9.70 0.	9.89E-20	0.	9.89E-20	0.	0.	0.	0.	0.	0.	0.	9.89E-20
12 9.60 0.	1.13E-19	0.	1.13E-19	0.	0.	0.	0.	0.	0.	0.	1.13E-19
13 9.50 0.	3.72E-05	0.	1.21E-20	0.	0.	0.	0.	0.	0.	0.	3.72E-05
14 9.40 0.	1.30E-04	0.	6.32E-21	0.	0.	0.	0.	0.	0.	0.	1.30E-04
15 9.30 0.	2.38E-04	0.	3.67E-21	0.	0.	0.	0.	0.	0.	0.	2.38E-04
16 9.20 0.	3.37E-04	0.	1.67E-22	0.	0.	0.	0.	0.	0.	0.	3.37E-04
17 9.10 0.	4.64E-04	0.	4.77E-22	0.	0.	0.	0.	0.	0.	0.	4.64E-04
18 9.00 0.	5.95E-04	0.	3.43E-23	0.	0.	0.	0.	0.	0.	0.	5.95E-04
19 8.90 0.	7.26E-04	0.	2.57E-23	0.	0.	0.	0.	0.	0.	0.	7.26E-04
20 8.80 0.	7.78E-04	0.	6.95E-24	0.	0.	0.	0.	0.	0.	0.	7.78E-04
21 8.70 0.	7.69E-04	0.	1.09E-24	0.	0.	0.	0.	0.	0.	0.	7.69E-04
22 8.60 0.	7.80E-04	0.	1.21E-24	0.	0.	0.	0.	0.	0.	0.	7.80E-04
23 8.50 0.	7.35E-04	0.	8.34E-26	0.	0.	0.	0.	0.	0.	0.	7.35E-04
24 8.40 0.	6.91E-04	0.	1.06E-25	0.	0.	0.	0.	0.	0.	0.	6.91E-04
25 8.30 0.	6.40E-04	0.	9.65E-27	0.	0.	0.	0.	0.	0.	0.	6.40E-04
26 8.20 0.	5.82E-04	0.	6.51E-27	0.	0.	0.	0.	0.	0.	0.	5.82E-04
27 8.10 0.	5.21E-04	0.	1.10E-27	0.	0.	0.	0.	0.	0.	0.	5.21E-04
28 8.00 0.	4.60E-04	0.	4.83E-28	0.	0.	0.	0.	0.	0.	0.	4.60E-04
29 7.90 0.	3.94E-04	0.	1.20E-28	0.	0.	0.	0.	0.	0.	0.	3.94E-04
30 7.80 0.	3.27E-04	0.	4.74E-29	0.	0.	0.	0.	0.	0.	0.	3.27E-04
31 7.70 0.	2.68E-04	0.	1.39E-29	0.	0.	0.	0.	0.	0.	0.	2.68E-04
32 7.60 0.	2.17E-04	0.	3.41E-30	0.	0.	0.	0.	0.	0.	0.	2.17E-04
33 7.50 0.	1.66E-04	0.	1.11E-30	0.	0.	0.	0.	0.	0.	0.	1.66E-04
34 7.40 0.	1.26E-04	0.	2.47E-31	0.	0.	0.	0.	0.	0.	0.	1.26E-04
35 7.30 0.	8.95E-05	0.	7.11E-32	0.	0.	0.	0.	0.	0.	0.	8.95E-05
36 7.20 0.	6.79E-05	0.	1.74E-32	0.	0.	0.	0.	0.	0.	0.	6.79E-05
37 7.10 0.	4.74E-05	0.	4.85E-33	0.	0.	0.	0.	0.	0.	0.	4.74E-05
38 7.00 0.	4.06E-06	0.	1.21E-33	0.	0.	0.	0.	0.	0.	0.	4.06E-06
39 6.90 0.	4.40E-06	0.	3.30E-34	0.	0.	0.	0.	0.	0.	0.	4.40E-06
40 6.80 0.	2.11E-06	0.	8.40E-35	0.	0.	0.	0.	0.	0.	0.	2.11E-06
41 6.70 0.	8.49E-07	0.	2.16E-35	0.	0.	0.	0.	0.	0.	0.	8.49E-07
42 6.60 0.	3.68E-07	0.	5.43E-36	0.	0.	0.	0.	0.	0.	0.	3.68E-07
43 6.50 0.	1.12E-07	0.	1.21E-36	0.	0.	0.	0.	0.	0.	0.	1.12E-07
44 6.40 0.	3.29E-08	0.	1.69E-37	0.	0.	0.	0.	0.	0.	0.	3.29E-08
45 6.30 0.	7.32E-09	0.	1.14E-38	0.	0.	0.	0.	0.	0.	0.	7.32E-09
46 6.20 0.	1.18E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.18E-09
47 6.10 0.	1.36E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.36E-10
48 6.00 0.	1.66E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.66E-11
49 5.90 0.	8.17E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.17E-13
50 5.80 0.	5.32E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.32E-14
51 5.70 0.	2.44E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.44E-15

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
52	5.60	5.81E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.91E-11
53	5.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.77E-09
54	5.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.19E-12
55	5.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.62E-10
56	5.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.77E-10
57	5.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.15E-12
58	5.00	4.55E-11	0.	0.	0.	0.	4.33E-13	0.	0.	0.	0.	7.39E-11
59	4.90	3.87E-11	0.	0.	0.	0.	4.50E-13	0.	0.	0.	0.	8.94E-11
60	4.80	2.11E-11	0.	0.	0.	0.	4.67E-13	0.	0.	0.	0.	2.35E-11
61	4.70	9.60E-12	0.	0.	0.	0.	4.90E-13	0.	0.	0.	0.	1.01E-11
62	4.60	4.33E-12	0.	0.	0.	0.	5.10E-13	0.	0.	0.	0.	5.00E-12
63	4.50	5.50E-12	0.	0.	0.	0.	5.42E-13	0.	0.	0.	0.	2.07E-12
64	4.40	5.17E-12	0.	0.	0.	0.	5.67E-13	0.	0.	0.	0.	1.12E-12
65	4.30	2.04E-12	0.	0.	0.	0.	5.94E-13	0.	0.	0.	0.	8.34E-13
66	4.20	6.09E-13	0.	0.	0.	0.	6.31E-13	0.	0.	0.	0.	7.35E-13
67	4.10	3.34E-14	0.	0.	0.	0.	6.74E-13	0.	0.	0.	0.	7.55E-13
68	4.00	3.11E-15	0.	0.	0.	0.	7.21E-13	0.	0.	0.	0.	7.89E-13
69	3.90	1.82E-15	0.	0.	0.	0.	7.79E-13	0.	0.	0.	0.	8.44E-13
70	3.80	1.27E-15	0.	0.	0.	0.	8.42E-13	0.	0.	0.	0.	9.19E-13
71	3.70	2.03E-16	0.	0.	0.	0.	9.10E-13	0.	0.	0.	0.	1.00E-12
72	3.60	7.18E-17	0.	0.	0.	0.	1.00E-12	0.	0.	0.	0.	1.10E-12
73	3.50	2.87E-17	0.	0.	0.	0.	1.21E-12	0.	0.	0.	0.	1.21E-12
74	3.40	5.45E-18	0.	0.	0.	0.	1.34E-12	0.	0.	0.	0.	1.34E-12
75	3.30	1.93E-18	0.	0.	0.	0.	1.39E-12	0.	0.	0.	0.	1.39E-12
76	3.20	4.90E-19	0.	0.	0.	0.	1.42E-12	0.	0.	0.	0.	1.42E-12
77	3.10	1.12E-19	0.	0.	0.	0.	1.43E-12	0.	0.	0.	0.	1.43E-12
78	3.00	3.06E-20	0.	0.	0.	0.	1.38E-12	0.	0.	0.	0.	1.38E-12
79	2.90	6.95E-21	0.	0.	0.	0.	1.34E-12	0.	0.	0.	0.	1.34E-12
80	2.80	2.05E-21	0.	0.	0.	0.	1.24E-12	0.	0.	0.	0.	1.24E-12
81	2.70	2.50E-22	0.	0.	0.	0.	1.13E-12	0.	0.	0.	0.	1.13E-12
82	2.60	4.84E-24	0.	0.	0.	0.	1.01E-12	0.	0.	0.	0.	1.01E-12
83	2.50	4.94E-26	0.	0.	0.	0.	8.75E-13	0.	0.	0.	0.	8.75E-13
84	2.40	0.	0.	0.	0.	0.	7.56E-13	0.	0.	0.	0.	7.56E-13
85	2.30	0.	0.	0.	0.	0.	5.92E-13	0.	0.	0.	0.	5.92E-13
86	2.20	0.	0.	0.	0.	0.	4.49E-13	0.	0.	0.	0.	4.49E-13
87	2.10	0.	0.	0.	0.	0.	3.20E-13	0.	0.	0.	0.	3.20E-13
88	2.00	0.	0.	0.	0.	0.	2.17E-13	0.	0.	0.	0.	2.17E-13
89	1.90	0.	0.	0.	0.	0.	1.43E-13	0.	0.	0.	0.	1.43E-13
90	1.80	0.	0.	0.	0.	0.	8.32E-14	0.	0.	0.	0.	8.32E-14
91	1.70	0.	0.	0.	0.	0.	4.65E-14	0.	0.	0.	0.	4.65E-14
92	1.60	0.	0.	0.	0.	0.	2.44E-14	0.	0.	0.	0.	2.44E-14
93	1.50	0.	0.	0.	0.	0.	9.97E-15	0.	0.	0.	0.	9.97E-15
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	1.46E-15	0.	0.	0.	0.	1.46E-15
98	1.00	0.	0.	0.	0.	0.	2.21E-16	0.	0.	0.	0.	2.21E-16
99	0.90	0.	0.	0.	0.	0.	1.38E-14	0.	0.	0.	0.	1.38E-14
100	0.80	0.	0.	0.	0.	0.	3.24E-17	0.	0.	0.	0.	3.24E-17
101	0.70	0.	0.	0.	0.	0.	9.34E-14	0.	0.	0.	0.	9.34E-14
102	0.60	0.	0.	0.	0.	0.	8.06E-16	0.	0.	0.	0.	8.06E-16

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1000.		DENSITY (GM/CC)		1.293E-09 (1.0E-06 NORMAL)		FREE-FREE		N		P.F.		TOTAL AIR	
PHOTON ENERGY E.V.	02 S-R RANDBS	02 S-R CONT.	N2 B-W NO. 1	NO BETA	NO GAMMA	NO 2	PHOTO-DET (IONS)	0-	0-	0-	0-	0-	0-	0-	0-
1 10.70 0.		0.	1.08E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-15	
2 10.62 0.		0.	3.92E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.92E-16	
3 10.50 0.		0.	9.09E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.09E-17	
4 10.40 0.		0.	4.66E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.66E-17	
5 10.30 0.		0.	1.20E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.20E-17	
6 10.20 0.		0.	4.03E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.03E-18	
7 10.10 0.		0.	2.33E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.33E-18	
8 10.00 0.		0.	2.91E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.91E-19	
9 9.90 0.		0.	2.04E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.04E-19	
10 9.80 0.		0.	7.44E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.44E-20	
11 9.70 0.		0.	9.89E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.89E-21	
12 9.60 0.		0.	1.13E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.13E-20	
13 9.50 0.		3.72E-06	1.21E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.21E-21	
14 9.40 0.		1.38E-05	3.32E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.32E-22	
15 9.30 0.		3.38E-05	3.07E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.07E-22	
16 9.20 0.		3.36E-05	1.67E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.67E-23	
17 9.10 0.		4.64E-05	4.77E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.77E-23	
18 9.00 0.		5.95E-05	3.43E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.43E-24	
19 8.90 0.		7.26E-05	2.57E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.57E-24	
20 8.80 0.		7.78E-05	6.95E-25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.95E-25	
21 8.70 0.		7.69E-05	1.05E-25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.05E-25	
22 8.60 0.		7.80E-05	1.21E-25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.21E-25	
23 8.50 0.		7.35E-05	0.34E-27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.34E-27	
24 8.40 0.		6.91E-05	1.06E-26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.06E-26	
25 8.30 0.		6.40E-05	9.85E-26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.85E-26	
26 8.20 0.		5.82E-05	6.51E-26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.51E-26	
27 8.10 0.		5.21E-05	1.16E-26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.16E-26	
28 8.00 0.		4.60E-05	4.87E-29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.87E-29	
29 7.90 0.		3.94E-05	1.20E-29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.20E-29	
30 7.80 0.		3.27E-05	4.74E-30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.74E-30	
31 7.70 0.		2.68E-05	1.39E-30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.39E-30	
32 7.60 0.		2.17E-05	3.41E-31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.41E-31	
33 7.50 0.		1.66E-05	1.11E-31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.11E-31	
34 7.40 0.		1.26E-05	2.47E-32	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.47E-32	
35 7.30 0.		8.95E-06	7.11E-33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.11E-33	
36 7.20 0.		6.79E-06	1.74E-33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.74E-33	
37 7.10 0.		4.74E-06	4.85E-34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.85E-34	
38 7.00 4.06E-07		0.	1.21E-34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.21E-34	
39 6.90 4.40E-07		0.	3.30E-35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.30E-35	
40 6.80 2.11E-07		0.	8.40E-36	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.40E-36	
41 6.70 8.49E-08		0.	2.16E-36	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.16E-36	
42 6.60 5.68E-08		0.	5.43E-37	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.43E-37	
43 6.50 1.12E-08		0.	1.21E-37	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.21E-37	
44 6.40 3.29E-09		0.	1.69E-38	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.69E-38	
45 6.30 7.32E-10		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
46 6.20 1.18E-10		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
47 6.10 1.36E-11		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
48 6.00 1.46E-12		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
49 5.90 8.17E-14		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
50 5.80 5.32E-15		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
51 5.70 2.44E-16		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	

## ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	1.293E-09 (1.0E-05 NORMAL)
100.		

	PHOTON 02 S-R	N2	N2	N2+	NO	BETA	GAMMA	NO	NO	NO	2	PHOTO-DET	0-	FREE-FREE	N	0	TOTAL AIB
	ENERGY	1ST POS.	2ND POS.	1ST NEG.	NO	BETA	GAMMA	NO	NO	NO	2	PHOTO-DET	0-	FREE-FREE	N	0	P.E.
52	5.60	5.81E-10	0.	0.	0.48E-14	9.83E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.91E-12
53	5.50	0.	0.	0.	4.75E-13	3.76E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.77E-10
54	5.40	0.	0.	0.	2.69E-13	1.51E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.19E-13
55	5.30	0.	0.	0.	7.51E-14	2.61E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.62E-11
56	5.20	0.	0.	0.	4.36E-14	1.77E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.77E-11
57	5.10	0.	0.	0.	1.16E-14	4.60E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.65E-13
58	5.00	4.55E-12	0.	0.	3.85E-15	2.78E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.36E-12
59	4.90	3.87E-12	0.	0.	2.38E-15	1.79E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.91E-12
60	4.80	2.11E-12	0.	0.	3.37E-15	1.88E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.32E-12
61	4.70	9.60E-13	0.	0.	1.53E-15	8.38E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.79E-13
62	4.60	4.33E-13	0.	0.	5.09E-16	1.24E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.63E-13
63	4.50	1.50E-13	0.	0.	2.35E-16	4.20E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.68E-13
64	4.40	5.17E-14	0.	0.	6.29E-17	6.40E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.12E-14
65	4.30	2.04E-14	0.	0.	3.13E-17	1.48E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.05E-14
66	4.20	6.09E-15	0.	0.	8.83E-18	2.34E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.74E-14
67	4.10	3.34E-15	0.	0.	3.46E-18	2.27E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.62E-14
68	4.00	8.11E-16	0.	0.	1.33E-18	5.36E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.75E-14
69	3.90	1.82E-16	0.	0.	3.07E-19	1.53E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.68E-14
70	3.80	1.27E-16	0.	0.	1.91E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.92E-14
71	3.70	2.03E-17	0.	0.	2.51E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.18E-14
72	3.60	7.18E-18	0.	0.	2.19E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.48E-14
73	3.50	2.87E-18	0.	0.	2.06E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.84E-14
74	3.40	5.45E-19	0.	0.	1.96E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.24E-14
75	3.30	1.93E-19	0.	0.	1.88E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.48E-14
76	3.20	4.90E-20	0.	0.	1.38E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.48E-14
77	3.10	1.12E-20	0.	0.	1.60E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.51E-14
78	3.00	3.06E-21	0.	0.	7.92E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.37E-14
79	2.90	6.95E-22	0.	0.	8.02E-25												

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-02 (1.0E 01 NORMAL)

PHOTON ENERGY E.V.	02 S-R RAMDS	02 S-R CONT.	N2 R-W NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	4.06E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.06E-03
2 10.60 0.	2.13E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.13E-03
3 10.50 0.	1.33E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.33E-03
4 10.40 0.	8.60E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.60E-04
5 10.30 0.	4.08E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.08E-04
6 10.20 0.	2.78E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.78E-04
7 10.10 0.	1.88E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.88E-04
8 10.00 0.	6.99E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.99E-05
9 9.90 0.	6.20E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.20E-05
10 9.80 0.	3.44E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.44E-05
11 9.70 0.	1.31E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-05
12 9.60 0.	1.44E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.44E-05
13 9.50 0.	3.44E 01	3.44E 01	4.84E-06	0.	0.	0.	0.	0.	0.	0.	3.44E 01
14 9.40 0.	1.27E 02	1.27E 02	3.14E-06	0.	0.	0.	0.	0.	0.	0.	1.27E 02
15 9.30 0.	2.20E 02	2.20E 02	2.49E-06	0.	0.	0.	0.	0.	0.	0.	2.20E 02
16 9.20 0.	3.13E 02	3.13E 02	6.08E-07	0.	0.	0.	0.	0.	0.	0.	3.13E 02
17 9.10 0.	4.14E 02	4.14E 02	9.14E-07	0.	0.	0.	0.	0.	0.	0.	4.14E 02
18 9.00 0.	5.16E 02	5.16E 02	2.89E-07	0.	0.	0.	0.	0.	0.	0.	5.16E 02
19 8.90 0.	6.18E 02	6.18E 02	1.92E-07	0.	0.	0.	0.	0.	0.	0.	6.18E 02
20 8.80 0.	6.49E 02	6.49E 02	1.25E-07	0.	0.	0.	0.	0.	0.	0.	6.49E 02
21 8.70 0.	6.24E 02	6.24E 02	4.15E-08	0.	0.	0.	0.	0.	0.	0.	6.24E 02
22 8.60 0.	5.99E 02	5.99E 02	4.70E-08	0.	0.	0.	0.	0.	0.	0.	5.99E 02
23 8.50 0.	5.71E 02	5.71E 02	1.37E-08	0.	0.	0.	0.	0.	0.	0.	5.71E 02
24 8.40 0.	5.36E 02	5.36E 02	1.34E-08	0.	0.	0.	0.	0.	0.	0.	5.36E 02
25 8.30 0.	4.98E 02	4.98E 02	4.43E-09	0.	0.	0.	0.	0.	0.	0.	4.98E 02
26 8.20 0.	4.60E 02	4.60E 02	3.48E-09	0.	0.	0.	0.	0.	0.	0.	4.60E 02
27 8.10 0.	4.23E 02	4.23E 02	1.42E-09	0.	0.	0.	0.	0.	0.	0.	4.23E 02
28 8.00 0.	3.87E 02	3.87E 02	9.81E-10	0.	0.	0.	0.	0.	0.	0.	3.87E 02
29 7.90 0.	3.48E 02	3.48E 02	4.26E-10	0.	0.	0.	0.	0.	0.	0.	3.48E 02
30 7.80 0.	3.09E 02	3.09E 02	3.03E-10	0.	0.	0.	0.	0.	0.	0.	3.09E 02
31 7.70 0.	2.72E 02	2.72E 02	1.42E-10	0.	0.	0.	0.	0.	0.	0.	2.72E 02
32 7.60 0.	2.35E 02	2.35E 02	7.94E-11	0.	0.	0.	0.	0.	0.	0.	2.35E 02
33 7.50 0.	1.99E 02	1.99E 02	4.08E-11	0.	0.	0.	0.	0.	0.	0.	1.99E 02
34 7.40 0.	1.69E 02	1.69E 02	2.10E-11	0.	0.	0.	0.	0.	0.	0.	1.69E 02
35 7.30 0.	1.41E 02	1.41E 02	1.10E-11	0.	0.	0.	0.	0.	0.	0.	1.41E 02
36 7.20 0.	1.13E 02	1.13E 02	5.53E-12	0.	0.	0.	0.	0.	0.	0.	1.13E 02
37 7.10 0.	9.53E 01	9.53E 01	2.98E-12	0.	0.	0.	0.	0.	0.	0.	9.53E 01
38 7.00 1.83E 00	1.49E 12	1.49E 12	1.49E-12	0.	0.	0.	0.	0.	0.	0.	1.49E 12
39 6.90 2.61E 00	7.77E-13	7.77E-13	7.77E-13	0.	0.	0.	0.	0.	0.	0.	7.77E-13
40 6.80 1.62E 00	3.99E-13	3.99E-13	3.99E-13	0.	0.	0.	0.	0.	0.	0.	3.99E-13
41 6.70 8.26E-01	1.96E-13	1.96E-13	1.96E-13	0.	0.	0.	0.	0.	0.	0.	1.96E-13
42 6.60 3.84E-01	9.62E-14	9.62E-14	9.62E-14	0.	0.	0.	0.	0.	0.	0.	9.62E-14
43 6.50 1.52E-01	3.82E-14	3.82E-14	3.82E-14	0.	0.	0.	0.	0.	0.	0.	3.82E-14
44 6.40 5.37E-02	5.52E-15	5.52E-15	5.52E-15	0.	0.	0.	0.	0.	0.	0.	5.52E-15
45 6.30 1.81E-02	1.54E-15	1.54E-15	1.54E-15	0.	0.	0.	0.	0.	0.	0.	1.54E-15
46 6.20 4.82E-03	2.00E-16	2.00E-16	2.00E-16	0.	0.	0.	0.	0.	0.	0.	2.00E-16
47 6.10 1.14E-03	2.65E-17	2.65E-17	2.65E-17	0.	0.	0.	0.	0.	0.	0.	2.65E-17
48 6.00 2.84E-04	2.68E-18	2.68E-18	2.68E-18	0.	0.	0.	0.	0.	0.	0.	2.68E-18
49 5.90 4.35E-05	1.60E-19	1.60E-19	1.60E-19	0.	0.	0.	0.	0.	0.	0.	1.60E-19
50 5.80 4.69E-06	2.98E-21	2.98E-21	2.98E-21	0.	0.	0.	0.	0.	0.	0.	2.98E-21
51 5.70 3.12E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.12E-07



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON O2 S-R ENERGY BANDS	A2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO	GAMMA	NO	VIB-ROT	NO	2	PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.F	D P.E.	TOTAL AIR
52	5.60	1.11E-08	0.	0.	5.30E-03	1.51E-01	0.	0.	0.	0.	0.	0.	0.	0.	1.57E-01
53	5.50	0.	0.	0.	1.20E-02	6.74E-01	0.	0.	0.	0.	0.	0.	0.	0.	6.66E-01
54	5.43	0.	0.	0.	7.75E-03	1.00E-02	0.	0.	0.	0.	0.	0.	0.	0.	2.64E-02
55	5.30	0.	0.	0.	6.00E-03	2.22E-01	0.	0.	0.	0.	0.	0.	0.	0.	2.20E-01
56	5.20	0.	0.	0.	4.53E-03	7.99E-02	0.	0.	0.	0.	0.	0.	0.	0.	8.45E-02
57	5.10	0.	0.	0.	2.70E-03	3.31E-02	0.	0.	0.	0.	0.	0.	0.	0.	4.16E-02
58	5.00	3.92E-02	0.	0.	1.43E-03	5.70E-02	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-01
59	4.90	5.25E-02	0.	0.	1.10E-03	7.15E-03	0.	0.	0.	0.	0.	0.	0.	0.	6.70E-02
60	4.80	5.10E-02	0.	0.	1.31E-03	1.62E-02	0.	0.	0.	0.	0.	0.	0.	0.	7.57E-02
61	4.70	3.85E-02	0.	0.	8.36E-04	1.62E-03	0.	0.	0.	0.	0.	0.	0.	0.	4.75E-02
62	4.60	3.01E-02	0.	0.	6.11E-04	4.34E-03	0.	0.	0.	0.	0.	0.	0.	0.	4.17E-02
63	4.50	1.87E-02	0.	0.	3.45E-04	3.93E-04	0.	0.	0.	0.	0.	0.	0.	0.	2.63E-02
64	4.40	1.16E-02	0.	0.	2.27E-04	9.77E-04	0.	0.	0.	0.	0.	0.	0.	0.	1.90E-02
65	4.30	6.77E-03	0.	0.	1.40E-04	1.70E-04	0.	0.	0.	0.	0.	0.	0.	0.	1.43E-02
66	4.20	4.01E-03	0.	0.	9.09E-05	1.70E-04	0.	0.	0.	0.	0.	0.	0.	0.	1.16E-02
67	4.10	2.69E-03	0.	0.	5.20E-05	6.55E-05	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-02
68	4.00	1.44E-03	0.	0.	3.46E-05	1.40E-05	0.	0.	0.	0.	0.	0.	0.	0.	9.31E-03
69	3.90	6.57E-04	0.	0.	1.53E-05	1.57E-05	0.	0.	0.	0.	0.	0.	0.	0.	8.70E-03
70	3.80	5.73E-04	0.	0.	1.41E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.01E-03
71	3.70	2.26E-04	0.	0.	4.39E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.01E-03
72	3.60	1.34E-04	0.	0.	5.00E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.29E-03
73	3.50	8.00E-05	0.	0.	1.30E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.67E-03
74	3.40	3.66E-05	0.	0.	1.49E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.01E-02
75	3.30	2.03E-05	0.	0.	4.09E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.84E-02
76	3.20	9.50E-06	0.	0.	3.04E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.06E-02
77	3.10	4.96E-06	0.	0.	1.40E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.07E-02
78	3.00	2.45E-06	0.	0.	8.64E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.05E-02
79	2.90	1.07E-06	0.	0.	2.30E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02
80	2.80	6.73E-07	0.	0.	6.10E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.73E-03
81	2.70	1.68E-07	0.	0.	6.10E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.20E-03
82	2.60	2.06E-08	0.	0.	5.65E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.63E-03
83	2.50	7.45E-10	0.	0.	4.73E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.09E-03
84	2.40	0.	2.27E-17	0.	2.13E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.22E-03
85	2.30	0.	3.12E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.31E-03
86	2.20	0.	3.41E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.43E-03
87	2.10	0.	3.14E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.53E-03
88	2.00	0.	3.95E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.43E-03
89	1.90	0.	3.46E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.40E-03
90	1.80	0.	1.46E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.74E-03
91	1.70	0.	4.14E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.11E-03
92	1.60	0.	9.30E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.85E-04
93	1.50	0.	3.47E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.81E-04
94	1.40	0.	1.86E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-12
95	1.30	0.	2.43E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-13
96	1.20	0.	1.55E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.35E-12
97	1.10	0.	1.02E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.60E-07
98	1.00	0.	5.11E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-07
99	0.90	0.	1.15E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.80E-06
100	0.80	0.	6.32E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.99E-06
101	0.70	0.	1.04E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.92E-05
102	0.60	0.	1.19E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.00E-05

**TOTAL AIR**

4.00E-04	2.13E-04	1.33E-04	8.00E-05	4.00E-05	2.70E-05	1.00E-05	6.90E-06	3.44E-06	1.32E-06	1.44E-06	3.44E-06	1.27E-01	2.20E-01	3.13E-01	4.14E-01	5.10E-01	6.10E-01	6.49E-01	6.24E-01	5.99E-01	5.71E-01	5.36E-01	4.90E-01	4.60E-01	4.23E-01	3.67E-01	3.40E-01	3.09E-01	2.72E-01	2.35E-01	1.99E-01	1.69E-01	1.41E-01	1.10E-01	9.93E-02	1.87E-01	2.69E-01	1.63E-01	1.04E-01	5.50E-02	1.90E-02	6.10E-02	3.70E-02	1.12E-02	1.17E-01	1.63E-02	1.05E-02	2.55E-02	3.40E-03
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ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY	02 S-R BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	VIB-ROT	NO	NO	2	PHOTO-DET	0- FREF-FRFE	N P.E.	0 P.E.	TOTAL AIR
92	5.60	1.11E-09	0.	0.	5.38E-04	1.51E-02	0.	0.	0.	0.	0.	0.	0.	0.	1.57E-02
93	5.50	0.	0.	0.	1.28E-03	6.74E-02	0.	0.	0.	0.	0.	0.	0.	0.	6.66E-02
94	5.40	0.	0.	0.	7.75E-04	1.88E-03	0.	0.	0.	0.	0.	0.	0.	0.	2.66E-03
95	5.30	0.	0.	0.	6.08E-04	2.22E-02	0.	0.	0.	0.	0.	0.	0.	0.	2.28E-02
96	5.20	0.	0.	0.	4.53E-04	7.99E-03	0.	0.	0.	0.	0.	0.	0.	0.	6.45E-03
97	5.10	0.	0.	0.	2.70E-04	3.31E-03	0.	0.	0.	0.	0.	0.	0.	0.	3.77E-03
98	5.00	0.	0.	0.	1.43E-04	5.70E-03	0.	0.	0.	0.	0.	0.	0.	0.	9.96E-03
99	4.90	5.25E-03	0.	0.	1.18E-04	7.35E-04	0.	0.	0.	0.	0.	0.	0.	0.	6.28E-03
100	4.80	5.78E-03	0.	0.	1.31E-04	1.62E-03	0.	0.	0.	0.	0.	0.	0.	0.	7.13E-03
101	4.70	3.85E-03	0.	0.	6.36E-05	1.62E-04	0.	0.	0.	0.	0.	0.	0.	0.	4.30E-03
102	4.60	3.01E-03	0.	0.	6.11E-05	4.34E-04	0.	0.	0.	0.	0.	0.	0.	0.	3.72E-03
103	4.50	1.87E-03	0.	0.	3.45E-05	3.93E-05	0.	0.	0.	0.	0.	0.	0.	0.	2.16E-03
104	4.40	1.16E-03	0.	0.	2.27E-05	9.77E-05	0.	0.	0.	0.	0.	0.	0.	0.	1.50E-03
105	4.30	6.77E-04	0.	0.	1.40E-05	1.70E-05	0.	0.	0.	0.	0.	0.	0.	0.	9.35E-04
106	4.20	4.01E-04	0.	0.	9.09E-06	1.78E-05	0.	0.	0.	0.	0.	0.	0.	0.	6.60E-04
107	4.10	2.69E-04	0.	0.	5.20E-06	6.55E-06	0.	0.	0.	0.	0.	0.	0.	0.	5.20E-04
108	4.00	1.44E-04	0.	0.	3.46E-06	1.40E-06	0.	0.	0.	0.	0.	0.	0.	0.	3.96E-04
109	3.90	6.57E-05	0.	0.	1.53E-06	1.57E-06	0.	0.	0.	0.	0.	0.	0.	0.	3.25E-04
110	3.80	5.73E-05	0.	0.	1.41E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.25E-04
111	3.70	2.29E-05	0.	0.	4.39E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.01E-04
112	3.60	1.34E-05	0.	0.	5.00E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-04
113	3.50	8.00E-06	0.	0.	1.30E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.11E-04
114	3.40	3.66E-06	0.	0.	1.49E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.21E-04
115	3.30	2.03E-06	0.	0.	4.09E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.29E-04
116	3.20	9.50E-07	0.	0.	3.84E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.36E-04
117	3.10	4.96E-07	0.	0.	1.40E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.40E-04
118	3.00	2.45E-07	0.	0.	8.86E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.32E-04
119	2.90	1.07E-07	0.	0.	2.30E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.23E-04
120	2.80	6.73E-08	0.	0.	6.18E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.08E-04
121	2.70	1.68E-08	0.	0.	6.10E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.91E-04
122	2.60	2.06E-09	0.	0.	5.65E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.73E-04
123	2.50	7.45E-11	0.	0.	4.73E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.50E-04
124	2.40	0.	0.	0.	2.19E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.28E-04
125	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.99E-04
126	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.72E-04
127	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.43E-04
128	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-04
129	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.22E-05
130	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.49E-05
131	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.51E-05
132	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.16E-05
133	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.90E-06
134	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.86E-13
135	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-14
136	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-13
137	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.60E-08
138	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-08
139	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.88E-07
140	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.99E-07
141	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.92E-06
142	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-06

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON ENERGY E.V	02 S-R RANOS	02 S-R CONT.	N2 B-W NO. 1	NO BETA	NO GAMMA	NO 2	PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.F.	TOTAL AIR
1 10.70 0.		0.	4.06E-05	0.	0.	0.	0.	0.	0.	0.	4.06E-05
2 10.60 0.		0.	2.13E-05	0.	0.	0.	0.	0.	0.	0.	2.13E-05
3 10.50 0.		0.	1.33E-05	0.	0.	0.	0.	0.	0.	0.	1.33E-05
4 10.40 0.		0.	8.60E-06	0.	0.	0.	0.	0.	0.	0.	8.60E-06
5 10.30 0.		0.	4.08E-06	0.	0.	0.	0.	0.	0.	0.	4.08E-06
6 10.20 0.		0.	2.70E-06	0.	0.	0.	0.	0.	0.	0.	2.70E-06
7 10.10 0.		0.	1.68E-06	0.	0.	0.	0.	0.	0.	0.	1.68E-06
8 10.00 0.		0.	6.99E-07	0.	0.	0.	0.	0.	0.	0.	6.99E-07
9 9.90 0.		0.	6.20E-07	0.	0.	0.	0.	0.	0.	0.	6.20E-07
10 9.80 0.		0.	3.44E-07	0.	0.	0.	0.	0.	0.	0.	3.44E-07
11 9.70 0.		0.	1.31E-07	0.	0.	0.	0.	0.	0.	0.	1.31E-07
12 9.60 0.		0.	1.44E-07	0.	0.	0.	0.	0.	0.	0.	1.44E-07
13 9.50 0.		3.44E-01	4.64E-08	0.	0.	0.	0.	0.	0.	0.	3.44E-01
14 9.40 0.		1.27E 00	3.14E-08	0.	0.	0.	0.	0.	0.	0.	1.27E 00
15 9.30 0.		2.20E 00	2.43E-08	0.	0.	0.	0.	0.	0.	0.	2.20E 00
16 9.20 0.		3.13E 00	6.06E-09	0.	0.	0.	0.	0.	0.	0.	3.13E 00
17 9.10 0.		4.14E 00	9.14E-09	0.	0.	0.	0.	0.	0.	0.	4.14E 00
18 9.00 0.		5.16E 00	2.69E-09	0.	0.	0.	0.	0.	0.	0.	5.16E 00
19 8.90 0.		6.18E 00	1.92E-09	0.	0.	0.	0.	0.	0.	0.	6.18E 00
20 8.80 0.		6.49E 00	1.25E-09	0.	0.	0.	0.	0.	0.	0.	6.49E 00
21 8.70 0.		6.24E 00	4.15E-10	0.	0.	0.	0.	0.	0.	0.	6.24E 00
22 8.60 0.		5.99E 00	4.70E-10	0.	0.	0.	0.	0.	0.	0.	5.99E 00
23 8.50 0.		5.71E 00	1.37E-10	0.	0.	0.	0.	0.	0.	0.	5.71E 00
24 8.40 0.		5.36E 00	1.34E-10	0.	0.	0.	0.	0.	0.	0.	5.36E 00
25 8.30 0.		4.98E 00	4.43E-11	0.	0.	0.	0.	0.	0.	0.	4.98E 00
26 8.20 0.		4.60E 00	3.48E-11	0.	0.	0.	0.	0.	0.	0.	4.60E 00
27 8.10 0.		4.23E 00	1.42E-11	0.	0.	0.	0.	0.	0.	0.	4.23E 00
28 8.00 0.		3.87E 00	9.81E-12	0.	0.	0.	0.	0.	0.	0.	3.87E 00
29 7.90 0.		3.48E 00	4.26E-12	0.	0.	0.	0.	0.	0.	0.	3.48E 00
30 7.80 0.		3.09E 00	3.03E-12	0.	0.	0.	0.	0.	0.	0.	3.09E 00
31 7.70 0.		2.72E 00	1.42E-12	0.	0.	0.	0.	0.	0.	0.	2.72E 00
32 7.60 0.		2.35E 00	7.93E-13	0.	0.	0.	0.	0.	0.	0.	2.35E 00
33 7.50 0.		1.99E 00	4.08E-13	0.	0.	0.	0.	0.	0.	0.	1.99E 00
34 7.40 0.		1.69E 00	2.10E-13	0.	0.	0.	0.	0.	0.	0.	1.69E 00
35 7.30 0.		1.41E 00	1.10E-13	0.	0.	0.	0.	0.	0.	0.	1.41E 00
36 7.20 0.		1.18E 00	5.52E-14	0.	0.	0.	0.	0.	0.	0.	1.18E 00
37 7.10 0.		9.53E-01	2.98E-14	0.	0.	0.	0.	0.	0.	0.	9.53E-01
38 7.00 0.	93E-02 0.		1.49E-14	0.	4.91E-09	0.	0.	0.	0.	0.	1.49E-14
39 6.90 0.	2.61E-02 0.		7.77E-15	0.	1.67E-06	0.	0.	0.	0.	0.	7.77E-15
40 6.80 0.	1.62E-02 0.		3.99E-15	0.	7.66E-06	0.	0.	0.	0.	0.	3.99E-15
41 6.70 0.	8.26E-03 0.		1.96E-15	0.	4.59E-06	0.	0.	0.	0.	0.	1.96E-15
42 6.60 0.	3.84E-03 0.		9.62E-16	0.	1.66E-06	0.	0.	0.	0.	0.	9.62E-16
43 6.50 0.	1.52E-03 0.		3.82E-16	0.	1.66E-06	0.	0.	0.	0.	0.	3.82E-16
44 6.40 0.	5.37E-04 0.		9.52E-17	0.	1.22E-05	0.	0.	0.	0.	0.	9.52E-17
45 6.30 0.	1.81E-04 0.		1.54E-17	0.	3.89E-06	0.	0.	0.	0.	0.	1.54E-17
46 6.20 0.	4.82E-05 0.		2.00E-18	0.	1.42E-04	0.	0.	0.	0.	0.	2.00E-18
47 6.10 0.	1.14E-05 0.		2.65E-19	0.	2.09E-03	0.	0.	0.	0.	0.	2.65E-19
48 6.00 0.	2.84E-06 0.		2.88E-20	0.	1.74E-03	0.	0.	0.	0.	0.	2.88E-20
49 5.90 0.	4.35E-07 0.		1.60E-21	0.	1.42E-04	0.	0.	0.	0.	0.	1.60E-21
50 5.80 0.	4.68E-08 0.		2.98E-23	0.	1.42E-04	0.	0.	0.	0.	0.	2.98E-23
51 5.70 0.	3.12E-09 0.		0.	0.	1.30E-04	0.	0.	0.	0.	0.	3.12E-09

## DENSITY (GM/CC) 1.293E-34 ( 1.0E-01 NORMAL);

PHOTON Q2 S-R ENERGY RANGES		N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO	GAMMA	NO	VIR-ROT	NO	2	PHOTO-DET	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
52	5.60 1.11E-10	0.	0.	0.	5.30E-05	1.51E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.56E-03
53	5.50 0.	0.	0.	0.	1.20E-04	6.73E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.86E-03
54	5.40 0.	0.	0.	0.	7.75E-05	1.60E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.66E-04
55	5.30 0.	0.	0.	0.	6.00E-05	2.22E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.20E-03
56	5.20 0.	0.	0.	0.	4.53E-05	7.99E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.44E-04
57	5.10 0.	0.	0.	0.	2.70E-05	3.31E-04	0.	5.70E-06	0.	0.	0.	0.	0.	0.	0.	3.64E-04
58	5.00 3.92E-04	0.	0.	0.	1.43E-05	5.70E-04	0.	5.90E-06	0.	0.	0.	0.	0.	0.	0.	9.02E-04
59	4.90 5.24E-04	0.	0.	0.	1.10E-05	7.15E-05	0.	6.19E-06	0.	0.	0.	0.	0.	0.	0.	6.14E-04
60	4.80 5.10E-04	0.	0.	0.	1.31E-05	1.61E-04	0.	6.35E-06	0.	0.	0.	0.	0.	0.	0.	6.99E-04
61	4.70 3.85E-04	0.	0.	0.	8.36E-06	1.62E-05	0.	6.50E-06	0.	0.	0.	0.	0.	0.	0.	4.14E-04
62	4.60 3.01E-04	0.	0.	0.	6.11E-06	4.34E-05	0.	6.66E-06	0.	0.	0.	0.	0.	0.	0.	3.57E-04
63	4.50 1.07E-04	0.	1.17E-19	0.	3.45E-06	3.93E-06	0.	6.83E-06	0.	0.	0.	0.	0.	0.	0.	2.01E-04
64	4.40 1.16E-04	0.	3.13E-16	0.	2.27E-06	9.76E-06	0.	7.01E-06	0.	0.	0.	0.	0.	0.	0.	1.35E-04
65	4.30 6.76E-05	0.	4.43E-19	0.	1.40E-06	1.70E-06	0.	7.18E-06	0.	0.	0.	0.	0.	0.	0.	7.79E-05
66	4.20 4.00E-05	0.	2.47E-17	0.	9.09E-07	1.70E-06	0.	7.36E-06	0.	0.	0.	0.	0.	0.	0.	5.01E-05
67	4.10 2.69E-05	0.	2.33E-19	0.	5.20E-07	6.55E-07	0.	7.56E-06	0.	0.	0.	0.	0.	0.	0.	3.56E-05
68	4.00 1.44E-05	0.	2.52E-17	0.	3.46E-07	1.40E-07	0.	7.82E-06	0.	0.	0.	0.	0.	0.	0.	2.27E-05
69	3.90 6.57E-06	0.	3.41E-17	0.	1.53E-07	1.57E-07	0.	8.09E-06	0.	0.	0.	0.	0.	0.	0.	1.50E-05
70	3.80 5.73E-06	0.	3.57E-18	0.	1.41E-07	0.	0.	8.42E-06	0.	0.	0.	0.	0.	0.	0.	1.43E-05
71	3.70 2.29E-06	0.	5.75E-17	0.	4.39E-08	0.	0.	8.77E-06	0.	0.	0.	0.	0.	0.	0.	1.11E-05
72	3.60 1.34E-06	0.	1.63E-18	0.	4.99E-08	0.	0.	9.15E-06	0.	0.	0.	0.	0.	0.	0.	1.05E-05
73	3.50 8.00E-07	0.	1.46E-17	0.	1.30E-08	0.	0.	9.58E-06	0.	0.	0.	0.	0.	0.	0.	1.04E-05
74	3.40 3.65E-07	0.	3.35E-19	0.	1.49E-08	0.	0.	1.00E-05	0.	0.	0.	0.	0.	0.	0.	1.04E-05
75	3.30 2.03E-07	0.	2.33E-18	0.	4.09E-09	0.	0.	1.03E-05	0.	0.	0.	0.	0.	0.	0.	1.05E-05
76	3.20 9.50E-08	0.	8.92E-20	0.	3.83E-09	0.	0.	1.06E-05	0.	0.	0.	0.	0.	0.	0.	1.07E-05
77	3.10 4.96E-08	0.	3.12E-19	0.	1.40E-09	0.	0.	1.07E-05	0.	0.	0.	0.	0.	0.	0.	1.00E-05
78	3.00 2.45E-08	0.	1.83E-20	0.	8.85E-10	0.	0.	1.								



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY	02 S-R BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO PHOTO-BET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	1.11E-11	0.	0.	5.38E-06	1.51E-04	0.	0.	0.	0.	0.	1.56E-04
53	5.50	0.	0.	0.	1.20E-05	6.73E-04	0.	0.	0.	0.	0.	6.06E-04
54	5.40	0.	0.	0.	7.74E-06	1.08E-05	0.	0.	0.	0.	0.	2.66E-05
55	5.30	0.	0.	0.	6.08E-06	2.22E-04	0.	0.	0.	0.	0.	2.28E-04
56	5.20	0.	0.	0.	4.53E-06	7.99E-05	0.	0.	0.	0.	0.	8.44E-05
57	5.10	0.	0.	0.	2.70E-06	3.31E-05	0.	1.62E-07	0.	0.	0.	3.60E-05
58	5.00	3.91E-05	0.	0.	1.43E-06	5.70E-05	0.	1.95E-07	0.	0.	0.	9.78E-05
59	4.90	5.24E-05	0.	0.	1.10E-06	7.15E-06	0.	2.00E-07	0.	0.	0.	6.09E-05
60	4.80	5.17E-05	0.	0.	1.31E-06	1.61E-05	0.	2.05E-07	0.	0.	0.	6.94E-05
61	4.70	3.84E-05	0.	0.	8.36E-07	1.62E-06	0.	2.10E-07	0.	0.	0.	4.11E-05
62	4.60	3.01E-05	0.	0.	6.11E-07	6.33E-06	0.	2.16E-07	0.	0.	0.	3.52E-05
63	4.50	1.87E-05	0.	0.	3.45E-07	3.93E-07	0.	2.21E-07	0.	0.	0.	1.97E-05
64	4.40	1.16E-05	0.	0.	2.27E-07	9.76E-07	0.	2.27E-07	0.	0.	0.	1.30E-05
65	4.30	6.75E-06	0.	0.	1.40E-07	1.70E-07	0.	2.32E-07	0.	0.	0.	7.29E-06
66	4.20	4.00E-06	0.	0.	9.08E-08	1.78E-07	0.	2.39E-07	0.	0.	0.	4.50E-06
67	4.10	2.69E-06	0.	0.	5.20E-08	6.55E-08	0.	2.47E-07	0.	0.	0.	3.04E-06
68	4.00	1.43E-06	0.	0.	3.46E-08	1.40E-08	0.	2.55E-07	0.	0.	0.	1.73E-06
69	3.90	6.56E-07	0.	0.	1.53E-08	1.57E-08	0.	2.64E-07	0.	0.	0.	9.42E-07
70	3.80	5.72E-07	0.	0.	1.41E-08	0.	0.	2.77E-07	0.	0.	0.	8.52E-07
71	3.70	2.28E-07	0.	0.	4.38E-09	0.	0.	2.89E-07	0.	0.	0.	5.10E-07
72	3.60	1.34E-07	0.	0.	1.99E-09	0.	0.	3.02E-07	0.	0.	0.	4.27E-07
73	3.50	7.99E-08	0.	0.	1.30E-09	0.	0.	3.17E-07	0.	0.	0.	3.83E-07
74	3.40	3.65E-08	0.	0.	1.49E-09	0.	0.	3.26E-07	0.	0.	0.	3.55E-07
75	3.30	2.02E-08	0.	0.	4.09E-10	0.	0.	3.39E-07	0.	0.	0.	3.47E-07
76	3.20	9.48E-09	0.	0.	3.83E-10	0.	0.	3.30E-07	0.	0.	0.	3.45E-07
77	3.10	4.95E-09	0.	0.	1.40E-10	0.	0.	3.22E-07	0.	0.	0.	3.44E-07
78	3.00	2.45E-09	0.	0.	8.85E-11	0.	0.	3.07E-07	0.	0.	0.	3.33E-07
79	2.90	1.06E-09	0.	0.	2.30E-11	0.	0.	2.95E-07	0.	0.	0.	3.23E-07
80	2.80	6.72E-10	0.	0.	6.09E-12	0.	0.	2.85E-07	0.	0.	0.	3.08E-07
81	2.70	1.66E-10	0.	0.	5.65E-14	0.	0.	2.72E-07	0.	0.	0.	2.90E-07
82	2.60	2.06E-11	0.	0.	4.73E-15	0.	0.	2.49E-07	0.	0.	0.	2.72E-07
83	2.50	7.43E-13	0.	0.	2.19E-16	0.	0.	2.28E-07	0.	0.	0.	2.49E-07
84	2.40	0.	2.27E-20	0.	0.	0.	0.	1.99E-07	0.	0.	0.	2.20E-07
85	2.30	0.	3.12E-18	0.	0.	0.	0.	1.71E-07	0.	0.	0.	1.90E-07
86	2.20	0.	3.14E-17	0.	0.	0.	0.	1.43E-07	0.	0.	0.	1.71E-07
87	2.10	0.	3.95E-17	0.	0.	0.	0.	1.08E-07	0.	0.	0.	1.43E-07
88	2.00	0.	3.46E-16	0.	0.	0.	0.	8.20E-08	0.	0.	0.	1.08E-07
89	1.90	0.	1.46E-15	0.	0.	0.	0.	5.48E-08	0.	0.	0.	8.24E-08
90	1.80	0.	4.14E-16	0.	0.	0.	0.	3.50E-08	0.	0.	0.	5.48E-08
91	1.70	0.	9.31E-16	0.	0.	0.	0.	2.16E-08	0.	0.	0.	3.90E-08
92	1.60	0.	3.47E-16	0.	0.	0.	0.	8.87E-09	0.	0.	0.	2.16E-08
93	1.50	0.	1.86E-15	0.	0.	0.	0.	0.	0.	0.	0.	8.87E-09
94	1.40	0.	2.43E-16	0.	0.	0.	0.	0.	0.	0.	0.	1.86E-15
95	1.30	0.	1.55E-15	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-16
96	1.20	0.	1.92E-16	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-15
97	1.10	0.	5.11E-16	0.	0.	0.	0.	0.	0.	0.	0.	1.92E-16
98	1.00	0.	1.15E-16	0.	0.	0.	0.	0.	0.	0.	0.	5.11E-16
99	0.90	0.	6.33E-17	0.	0.	0.	0.	0.	0.	0.	0.	1.15E-16
100	0.80	0.	1.04E-17	0.	0.	0.	0.	0.	0.	0.	0.	6.33E-17
101	0.70	0.	1.19E-22	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-17
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.19E-22

TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	1.293E+06	110.0E+04 NORMAL
2000.			

PHOTON ENERGY E.V.	02 S-R RANOS	02 S-R CONT.	N2 R-W NO. 1	NO RETA	NO GAMMA	NO 2	0- PHOTO-DEY (IONS)	N P.E.	D P.E.	TOTAL AIM
1 10.70 0.		0.	4.06E-07	0.	0.	0.	0.	0.		4.04E-07
2 10.60 0.		0.	2.13E-07	0.	0.	0.	0.	0.		2.13E-07
3 10.50 0.		0.	1.33E-07	0.	0.	0.	0.	0.		1.33E-07
4 10.40 0.		0.	8.60E-08	0.	0.	0.	0.	0.		8.60E-08
5 10.30 0.		0.	4.06E-08	0.	0.	0.	0.	0.		4.06E-08
6 10.20 0.		0.	2.78E-08	0.	0.	0.	0.	0.		2.78E-08
7 10.10 0.		0.	1.88E-08	0.	0.	0.	0.	0.		1.88E-08
8 10.00 0.		0.	6.99E-09	0.	0.	0.	0.	0.		6.99E-09
9 9.90 0.		0.	6.20E-09	0.	0.	0.	0.	0.		6.20E-09
10 9.80 0.		0.	3.44E-09	0.	0.	0.	0.	0.		3.44E-09
11 9.70 0.		0.	1.31E-09	0.	0.	0.	0.	0.		1.31E-09
12 9.60 0.		0.	1.44E-09	0.	0.	0.	0.	0.		1.44E-09
13 9.50 0.	3.41E-03	4.84E-10	4.84E-10	0.	0.	0.	0.	0.		3.41E-03
14 9.40 0.	1.26E-02	3.14E-10	3.14E-10	0.	0.	0.	0.	0.		1.26E-02
15 9.30 0.	2.18E-02	2.49E-10	2.49E-10	0.	0.	0.	0.	0.		2.18E-02
16 9.20 0.	3.10E-02	6.09E-11	6.09E-11	0.	0.	0.	0.	0.		3.10E-02
17 9.10 0.	4.10E-02	9.15E-11	9.15E-11	0.	0.	0.	0.	0.		4.10E-02
18 9.00 0.	5.11E-02	2.89E-11	2.89E-11	0.	0.	0.	0.	0.		5.11E-02
19 8.90 0.	6.12E-02	1.92E-11	1.92E-11	0.	0.	0.	0.	0.		6.12E-02
20 8.80 0.	6.43E-02	1.25E-11	1.25E-11	0.	0.	0.	0.	0.		6.43E-02
21 8.70 0.	6.18E-02	4.15E-12	4.15E-12	0.	0.	0.	0.	0.		6.18E-02
22 8.60 0.	5.93E-02	4.70E-12	4.70E-12	0.	0.	0.	0.	0.		5.93E-02
23 8.50 0.	5.65E-02	1.37E-12	1.37E-12	0.	0.	0.	0.	0.		5.65E-02
24 8.40 0.	5.31E-02	1.34E-12	1.34E-12	0.	0.	0.	0.	0.		5.31E-02
25 8.30 0.	4.93E-02	4.43E-13	4.43E-13	0.	0.	0.	0.	0.		4.93E-02
26 8.20 0.	4.56E-02	3.48E-13	3.48E-13	0.	0.	0.	0.	0.		4.56E-02
27 8.10 0.	4.19E-02	1.42E-13	1.42E-13	0.	0.	0.	0.	0.		4.19E-02
28 8.00 0.	3.83E-02	9.81E-14	9.81E-14	0.	0.	0.	0.	0.		3.83E-02
29 7.90 0.	3.45E-02	4.26E-14	4.26E-14	0.	0.	0.	0.	0.		3.45E-02
30 7.80 0.	3.06E-02	3.83E-14	3.83E-14	0.	0.	0.	0.	0.		3.06E-02
31 7.70 0.	2.69E-02	1.42E-14	1.42E-14	0.	0.	0.	0.	0.		2.69E-02
32 7.60 0.	2.33E-02	7.94E-15	7.94E-15	0.	4.89E-11	0.	0.	0.		2.33E-02
33 7.50 0.	1.97E-02	4.09E-15	4.09E-15	0.	1.67E-08	0.	0.	0.		1.97E-02
34 7.40 0.	1.67E-02	2.10E-15	2.10E-15	0.	7.63E-08	0.	0.	0.		1.67E-02
35 7.30 0.	1.40E-02	1.10E-15	1.10E-15	0.	4.57E-09	0.	0.	0.		1.40E-02
36 7.20 0.	1.17E-02	5.53E-16	5.53E-16	0.	1.66E-06	0.	0.	0.		1.17E-02
37 7.10 0.	9.44E-03	2.98E-16	2.98E-16	0.	1.22E-07	0.	0.	0.		9.44E-03
38 7.00 1.62E-04			1.49E-16	0.	3.60E-06	0.	0.	0.		1.62E-04
39 6.90 2.59E-04		0.	7.77E-17	0.	7.77E-06	0.	0.	0.		2.59E-04
40 6.80 1.61E-04		0.	4.00E-17	0.	1.41E-06	0.	0.	0.		1.61E-04
41 6.70 8.20E-05		0.	1.96E-17	0.	2.08E-05	0.	0.	0.		8.20E-05
42 6.60 3.81E-05		0.	9.62E-18	0.	1.74E-05	0.	0.	0.		3.81E-05
43 6.50 1.51E-05		0.	7.32E-18	0.	4.36E-06	0.	0.	0.		1.51E-05
44 6.40 5.33E-06		0.	9.52E-19	0.	5.36E-05	0.	0.	0.		5.33E-06
45 6.30 1.79E-06		0.	1.54E-19	1.81E-06	5.36E-05	0.	0.	0.		1.79E-06
46 6.20 4.78E-07		0.	2.00E-20	4.31E-06	3.09E-05	0.	0.	0.		4.78E-07
47 6.10 1.13E-07		0.	2.66E-21	4.04E-06	6.63E-06	0.	0.	0.		1.13E-07
48 6.00 2.62E-08		0.	2.68E-22	6.98E-06	1.10E-04	0.	0.	0.		2.62E-08
49 5.90 4.32E-09		0.	1.68E-23	3.36E-06	7.11E-06	0.	0.	0.		4.32E-09
50 5.80 4.65E-10		0.	2.98E-25	3.29E-06	2.21E-05	0.	0.	0.		4.65E-10
51 5.70 3.10E-11		0.	0.	2.09E-06	1.30E-04	0.	0.	0.		3.10E-11



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY E.V.	02 S-R HANDS	02 S-R CONT.	N2 R-W NO. 1	NO BETA	NO GAMMA	NO 2	0+ PHOTO-DEY (IONS)	FRES-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
1	10.70	0.	4.06E-07	0.	0.	0.	0.	0.	0.	0.	4.06E-07
2	10.60	0.	2.13E-07	0.	0.	0.	0.	0.	0.	0.	2.13E-07
3	10.50	0.	1.33E-07	0.	0.	0.	0.	0.	0.	0.	1.33E-07
4	10.40	0.	8.60E-08	0.	0.	0.	0.	0.	0.	0.	8.60E-08
5	10.30	0.	4.06E-08	0.	0.	0.	0.	0.	0.	0.	4.06E-08
6	10.20	0.	2.70E-08	0.	0.	0.	0.	0.	0.	0.	2.70E-08
7	10.10	0.	1.88E-08	0.	0.	0.	0.	0.	0.	0.	1.88E-08
8	10.00	0.	6.99E-09	0.	0.	0.	0.	0.	0.	0.	6.99E-09
9	9.90	0.	6.20E-09	0.	0.	0.	0.	0.	0.	0.	6.20E-09
10	9.80	0.	3.44E-09	0.	0.	0.	0.	0.	0.	0.	3.44E-09
11	9.70	0.	1.31E-09	0.	0.	0.	0.	0.	0.	0.	1.31E-09
12	9.60	0.	1.44E-09	0.	0.	0.	0.	0.	0.	0.	1.44E-09
13	9.50	0.	4.84E-10	0.	0.	0.	0.	0.	0.	0.	4.84E-10
14	9.40	0.	3.14E-10	0.	0.	0.	0.	0.	0.	0.	3.14E-10
15	9.30	0.	2.49E-10	0.	0.	0.	0.	0.	0.	0.	2.49E-10
16	9.20	0.	3.10E-02	0.	0.	0.	0.	0.	0.	0.	3.10E-02
17	9.10	0.	4.10E-02	0.	0.	0.	0.	0.	0.	0.	4.10E-02
18	9.00	0.	5.11E-02	0.	0.	0.	0.	0.	0.	0.	5.11E-02
19	8.90	0.	6.12E-02	0.	0.	0.	0.	0.	0.	0.	6.12E-02
20	8.80	0.	6.43E-02	0.	0.	0.	0.	0.	0.	0.	6.43E-02
21	8.70	0.	6.18E-02	0.	0.	0.	0.	0.	0.	0.	6.18E-02
22	8.60	0.	5.93E-02	0.	0.	0.	0.	0.	0.	0.	5.93E-02
23	8.50	0.	5.65E-02	0.	0.	0.	0.	0.	0.	0.	5.65E-02
24	8.40	0.	5.31E-02	0.	0.	0.	0.	0.	0.	0.	5.31E-02
25	8.30	0.	4.93E-02	0.	0.	0.	0.	0.	0.	0.	4.93E-02
26	8.20	0.	4.56E-02	0.	0.	0.	0.	0.	0.	0.	4.56E-02
27	8.10	0.	4.19E-02	0.	0.	0.	0.	0.	0.	0.	4.19E-02
28	8.00	0.	3.83E-02	0.	0.	0.	0.	0.	0.	0.	3.83E-02
29	7.90	0.	3.45E-02	0.	0.	0.	0.	0.	0.	0.	3.45E-02
30	7.80	0.	3.06E-02	0.	0.	0.	0.	0.	0.	0.	3.06E-02
31	7.70	0.	2.69E-02	0.	0.	0.	0.	0.	0.	0.	2.69E-02
32	7.60	0.	2.33E-02	0.	0.	0.	0.	0.	0.	0.	2.33E-02
33	7.50	0.	1.97E-02	0.	0.	0.	0.	0.	0.	0.	1.97E-02
34	7.40	0.	1.67E-02	0.	0.	0.	0.	0.	0.	0.	1.67E-02
35	7.30	0.	1.40E-02	0.	0.	0.	0.	0.	0.	0.	1.40E-02
36	7.20	0.	1.17E-02	0.	0.	0.	0.	0.	0.	0.	1.17E-02
37	7.10	0.	9.44E-03	0.	0.	0.	0.	0.	0.	0.	9.44E-03
38	7.00	1.82E-04	0.	0.	0.	0.	0.	0.	0.	0.	1.82E-04
39	6.90	2.59E-04	0.	0.	0.	0.	0.	0.	0.	0.	2.59E-04
40	6.80	1.61E-04	0.	0.	0.	0.	0.	0.	0.	0.	1.61E-04
41	6.70	8.20E-05	0.	0.	0.	0.	0.	0.	0.	0.	8.20E-05
42	6.60	3.81E-05	0.	0.	0.	0.	0.	0.	0.	0.	3.81E-05
43	6.50	1.51E-05	0.	0.	0.	0.	0.	0.	0.	0.	1.51E-05
44	6.40	5.33E-06	0.	0.	0.	0.	0.	0.	0.	0.	5.33E-06
45	6.30	1.79E-06	0.	0.	0.	0.	0.	0.	0.	0.	1.79E-06
46	6.20	4.78E-07	0.	0.	0.	0.	0.	0.	0.	0.	4.78E-07
47	6.10	1.13E-07	0.	0.	0.	0.	0.	0.	0.	0.	1.13E-07
48	6.00	2.82E-08	0.	0.	0.	0.	0.	0.	0.	0.	2.82E-08
49	5.90	4.32E-09	0.	0.	0.	0.	0.	0.	0.	0.	4.32E-09
50	5.80	4.65E-10	0.	0.	0.	0.	0.	0.	0.	0.	4.65E-10
51	5.70	3.10E-11	0.	0.	0.	0.	0.	0.	0.	0.	3.10E-11

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON O2 S-R	N2	N2	N2+	NO	GAMMA	NO	VIB-ROT	NO	2	PHOTO-DET	FREF-FREE	N	P.E.	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	RETA	NO	GAMMA	VIB-ROT	NO	2	PHOTO-DET	FREF-FREE	N	P.E.	TOTAL AIR
52 3.60 1.10E-12 0.	0.	0.	0.	5.36E-07	1.51E-05	0.	0.	0.	0.	0.	0.	0.	0.	1.56E-05
53 3.50 0.	0.	0.	0.	1.27E-06	6.71E-05	0.	0.	0.	0.	0.	0.	0.	0.	6.84E-05
54 3.10 0.	0.	0.	0.	7.72E-07	1.88E-06	0.	0.	0.	0.	0.	0.	0.	0.	2.85E-06
55 3.30 0.	0.	0.	0.	4.06E-07	2.21E-05	0.	0.	0.	0.	0.	0.	0.	0.	2.23E-05
56 3.20 0.	0.	0.	0.	4.52E-07	7.96E-06	0.	0.	0.	0.	0.	0.	0.	0.	8.42E-07
57 3.10 0.	0.	0.	0.	2.69E-07	3.30E-06	0.	0.	0.	0.	0.	0.	0.	0.	3.58E-06
58 3.08 3.89E-06 0.	0.	0.	0.	1.42E-07	5.68E-06	0.	0.	0.	0.	0.	0.	0.	0.	4.72E-06
59 4.90 5.21E-06 0.	0.	0.	0.	1.18E-07	7.12E-07	0.	0.	0.	0.	0.	0.	0.	0.	6.04E-06
60 4.80 5.14E-06 0.	0.	0.	0.	1.31E-07	1.61E-06	0.	0.	0.	0.	0.	0.	0.	0.	6.89E-06
61 4.70 3.82E-06 0.	0.	0.	0.	8.33E-08	1.62E-07	0.	0.	0.	0.	0.	0.	0.	0.	4.07E-06
62 4.80 2.99E-06 0.	0.	0.	0.	6.09E-08	4.32E-07	0.	0.	0.	0.	0.	0.	0.	0.	3.49E-06
63 4.50 1.86E-06 0.	0.	0.	0.	3.44E-08	3.92E-08	0.	0.	0.	0.	0.	0.	0.	0.	1.94E-06
64 4.40 1.15E-06 0.	0.	0.	0.	2.26E-08	9.73E-08	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-06
65 4.30 6.71E-07 0.	0.	0.	0.	1.39E-08	1.78E-08	0.	0.	0.	0.	0.	0.	0.	0.	7.09E-07
66 4.20 3.98E-07 0.	0.	0.	0.	9.06E-09	1.78E-08	0.	0.	0.	0.	0.	0.	0.	0.	4.32E-07
67 4.10 2.67E-07 0.	0.	0.	0.	5.19E-09	6.53E-09	0.	0.	0.	0.	0.	0.	0.	0.	2.86E-07
68 4.00 1.62E-07 0.	0.	0.	0.	3.45E-09	1.40E-09	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-07
69 3.90 6.52E-08 0.	0.	0.	0.	1.52E-09	1.57E-09	0.	0.	0.	0.	0.	0.	0.	0.	7.63E-08
70 3.80 3.69E-08 0.	0.	0.	0.	1.41E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.66E-08
71 3.70 2.27E-08 0.	0.	0.	0.	4.37E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.18E-08
72 3.60 1.33E-08 0.	0.	0.	0.	4.98E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-08
73 3.50 7.94E-09 0.	0.	0.	0.	1.30E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.76E-08
74 3.40 3.63E-09 0.	0.	0.	0.	1.48E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.37E-08
75 3.30 2.01E-09 0.	0.	0.	0.	4.08E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.23E-08
76 3.20 9.43E-10 0.	0.	0.	0.	3.82E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.15E-08
77 3.10 4.92E-10 0.	0.	0.	0.	1.39E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.12E-08
78 3.00 2.43E-10 0.	0.	0.	0.	8.82E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.06E-08
79 2.90 1.06E-10 0.	0.	0.	0.	2.29E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-08
80 2.80 6.68E-11 0.	0.	0.	0.	6.07E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.72E-09
81 2.70 1.67E-11 0.	0.	0.	0.	4.07E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.14E-09
82 2.60 2.04E-12 0.	0.	0.	0.	5.63E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.54E-09
83 2.50 7.39E-14 0.	0.	0.	0.	4.72E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.83E-09
84 2.40 0.	0.	0.	0.	2.19E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.16E-09
85 2.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.24E-09
86 2.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.39E-09
87 2.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.9E-09
88 2.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.46E-09
89 1.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.58E-09
90 1.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.72E-09
91 1.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.10E-09
92 1.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.79E-10
93 1.50 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.79E-10
94 1.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.84E-10
95 1.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-10
96 1.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-10
97 1.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.57E-11
98 1.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.86E-11
99 0.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.86E-10
100 0.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.98E-10
101 0.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.93E-09
102 0.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.07E-09

TEMPERATURE (DEGREES K): 2000. DENSITY (GM/CC) 1.238E+07 (10.0E-05 NORMAL)

[illegible]

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-07 (19.9E-05 NORMAL)

PHOTON O2 S-R	N2	N2	N2+	BETA	GAMMA	VIB-ROT	NO	NO	0-	FREE-PMEE	N	0	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.						PHOTO-DET (IONS)	P.E.	P.E.	P.E.	
52	5.60	1.08E-13	0.	5.31E-08	1.49E-06	0.	0.	0.	0.	0.	0.	0.	1.55E-06
53	5.50	0.	0.	1.26E-07	4.65E-06	0.	0.	0.	0.	0.	0.	0.	5.78E-06
54	5.40	0.	0.	7.65E-08	1.06E-07	0.	0.	0.	0.	0.	0.	0.	2.62E-07
55	5.30	0.	0.	6.01E-08	2.20E-06	0.	0.	0.	0.	0.	0.	0.	2.26E-06
56	5.20	0.	0.	4.48E-08	7.89E-07	0.	0.	0.	0.	0.	0.	0.	8.34E-07
57	5.10	0.	0.	2.67E-08	3.27E-07	0.	0.	1.78E-10	0.	0.	0.	0.	3.54E-07
58	5.00	3.82E-07	0.	1.41E-08	5.63E-07	0.	0.	1.84E-10	0.	0.	0.	0.	9.68E-07
59	4.90	5.11E-07	0.	1.17E-08	7.06E-08	0.	0.	1.91E-10	0.	0.	0.	0.	5.94E-07
60	4.80	5.05E-07	0.	1.29E-08	1.60E-07	0.	0.	1.96E-10	0.	0.	0.	0.	6.78E-07
61	4.70	3.75E-07	0.	8.26E-09	1.60E-08	0.	0.	2.00E-10	0.	0.	0.	0.	4.00E-07
62	4.60	2.94E-07	0.	6.03E-09	4.28E-08	0.	0.	2.05E-10	0.	0.	0.	0.	3.43E-07
63	4.50	1.83E-07	0.	3.41E-09	3.82E-09	0.	0.	2.11E-10	0.	0.	0.	0.	1.98E-07
64	4.40	1.13E-07	0.	2.24E-09	9.65E-09	0.	0.	2.16E-10	0.	0.	0.	0.	1.25E-07
65	4.30	6.59E-08	0.	1.38E-09	1.68E-09	0.	0.	2.22E-10	0.	0.	0.	0.	6.92E-08
66	4.20	3.90E-08	0.	8.98E-10	1.74E-09	0.	0.	2.27E-10	0.	0.	0.	0.	4.19E-08
67	4.10	2.62E-08	0.	5.14E-10	6.47E-10	0.	0.	2.33E-10	0.	0.	0.	0.	2.76E-08
68	4.00	1.40E-08	0.	3.41E-10	1.38E-10	0.	0.	2.41E-10	0.	0.	0.	0.	1.47E-08
69	3.90	6.40E-09	0.	1.51E-10	1.55E-10	0.	0.	2.49E-10	0.	0.	0.	0.	6.96E-09
70	3.80	5.59E-09	0.	1.35E-10	0.	0.	0.	2.59E-10	0.	0.	0.	0.	5.99E-09
71	3.70	2.23E-09	0.	4.33E-11	0.	0.	0.	2.70E-10	0.	0.	0.	0.	2.54E-09
72	3.60	1.31E-09	0.	4.93E-11	0.	0.	0.	2.82E-10	0.	0.	0.	0.	1.64E-09
73	3.50	7.86E-10	0.	1.20E-11	0.	0.	0.	2.95E-10	0.	0.	0.	0.	1.09E-09
74	3.40	3.56E-10	0.	1.47E-11	0.	0.	0.	3.09E-10	0.	0.	0.	0.	6.80E-10
75	3.30	1.90E-10	0.	4.04E-12	0.	0.	0.	3.19E-10	0.	0.	0.	0.	5.20E-10
76	3.20	9.26E-11	0.	3.79E-12	0.	0.	0.	3.27E-10	0.	0.	0.	0.	4.23E-10
77	3.10	4.83E-11	0.	1.38E-12	0.	0.	0.	3.31E-10	0.	0.	0.	0.	3.81E-10
78	3.00	2.39E-11	0.	8.75E-13	0.	0.	0.	3.23E-10	0.	0.	0.	0.	3.47E-10
79	2.90	1.04E-11	0.	2.27E-13	0.	0.	0.	3.15E-10	0.	0.	0.	0.	3.25E-10
80	2.80	6.56E-12	0.	6.02E-14	0.	0.	0.	3.08E-10	0.	0.	0.	0.	3.06E-10
81	2.70	1.64E-12	0.	6.02E-15	0.	0.	0.	2.93E-10	0.	0.	0.	0.	2.89E-10
82	2.60	2.01E-13	0.	5.50E-16	0.	0.	0.	2.66E-10	0.	0.	0.	0.	2.66E-10
83	2.50	7.26E-15	0.	4.68E-17	0.	0.	0.	2.43E-10	0.	0.	0.	0.	2.43E-10
84	2.40	0.	2.27E-22	2.17E-18	0.	0.	0.	2.22E-10	0.	0.	0.	0.	2.22E-10
85	2.30	0.	3.12E-20	0.	0.	0.	0.	1.94E-10	0.	0.	0.	0.	1.94E-10
86	2.20	0.	3.42E-20	0.	0.	0.	0.	1.67E-10	0.	0.	0.	0.	1.67E-10
87	2.10	0.	3.14E-19	0.	0.	0.	0.	1.34E-10	0.	0.	0.	0.	1.39E-10
88	2.00	0.	3.95E-19	0.	0.	0.	0.	1.06E-10	0.	0.	0.	0.	1.06E-10
89	1.90	0.	3.46E-18	0.	0.	0.	0.	8.01E-11	0.	0.	0.	0.	8.01E-11
90	1.80	0.	1.46E-17	0.	0.	0.	0.	5.35E-11	0.	0.	0.	0.	5.35E-11
91	1.70	0.	4.14E-18	0.	0.	0.	0.	3.42E-11	0.	0.	0.	0.	3.42E-11
92	1.60	0.	3.47E-18	0.	0.	0.	0.	2.11E-11	0.	0.	0.	0.	2.11E-11
93	1.50	0.	1.86E-18	0.	0.	0.	0.	8.67E-12	0.	0.	0.	0.	8.67E-12
94	1.40	0.	2.43E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.86E-12
95	1.30	0.	1.55E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-12
96	1.20	0.	1.82E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.86E-12
97	1.10	0.	5.11E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.35E-12
98	1.00	0.	1.15E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.58E-12
99	0.90	0.	6.33E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.89E-12
100	0.80	0.	1.04E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.68E-12
101	0.70	0.	1.19E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-11
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.87E-10
													1.06E-10

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		2000.		DENSITY (GM/CC)		1.293E-08		(1.0E-05 NORMAL)		P.E.		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15
PHOTON ENERGY E.V.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15
1 10.70 0.	4.06E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.00E-09
2 10.60 0.	2.13E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.13E-09
3 10.50 0.	1.33E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.33E-09
4 10.40 0.	8.61E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.61E-10
5 10.30 0.	4.08E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.08E-10
6 10.20 0.	2.70E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.70E-10
7 10.10 0.	1.80E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.80E-10
8 10.00 0.	6.99E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.99E-11
9 9.90 0.	6.20E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.20E-11
10 9.80 0.	3.44E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.44E-11
11 9.70 0.	1.31E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-11
12 9.60 0.	1.44E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.44E-11
13 9.50 0.	4.85E-12	3.17E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.17E-05
14 9.40 0.	3.14E-12	1.17E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.17E-04
15 9.30 0.	2.49E-12	2.03E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.03E-04
16 9.20 0.	6.09E-13	2.89E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.89E-04
17 9.10 0.	9.15E-13	3.81E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.81E-04
18 9.00 0.	2.90E-13	4.75E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.75E-04
19 8.90 0.	1.92E-13	5.69E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.69E-04
20 8.80 0.	1.25E-13	5.98E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.98E-04
21 8.70 0.	4.15E-14	5.75E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.75E-04
22 8.60 0.	4.70E-14	5.52E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.52E-04
23 8.50 0.	1.37E-14	5.26E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.26E-04
24 8.40 0.	1.34E-14	4.94E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.94E-04
25 8.30 0.	4.43E-15	4.50E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.50E-04
26 8.20 0.	3.48E-15	4.24E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.24E-04
27 8.10 0.	1.42E-15	3.90E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.90E-04
28 8.00 0.	9.82E-16	3.56E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.56E-04
29 7.90 0.	4.26E-16	3.21E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.21E-04
30 7.80 0.	3.03E-16	2.85E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.85E-04
31 7.70 0.	1.42E-16	2.50E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.50E-04
32 7.60 0.	7.94E-17	2.17E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.17E-04
33 7.50 0.	4.09E-17	1.83E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.83E-04
34 7.40 0.	2.10E-17	1.54E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.54E-04
35 7.30 0.	1.10E-17	1.30E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-04
36 7.20 0.	5.53E-18	1.09E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.09E-04
37 7.10 0.	2.98E-18	8.78E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.78E-05
38 7.00 1.68E-06	1.49E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.49E-18
39 6.90 2.40E-06	7.77E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.77E-19
40 6.80 1.49E-06	4.00E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.00E-19
41 6.70 7.60F-07	1.96E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.96E-19
42 6.60 3.53F-07	9.62F-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.62F-20
43 6.50 1.40E-07	3.82E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.82E-20
44 6.40 4.94E-08	9.53E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.53E-21
45 6.30 1.66E-08	1.54E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.54E-21
46 6.20 4.3E-09	2.00E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.00E-22
47 6.10 1.05E-09	2.66E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.66E-23
48 6.00 2.61F-10	2.88F-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.88F-24
49 5.90 4.00F-11	1.60F-25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.60F-25
50 5.80 4.31E-12	2.98F-27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.98F-27
51 5.70 2.87F-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N2+ 2ND NEG.	BETA	GAMMA	VIB-ROT	NO	NO	2	PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
52	5.60	1.02E-14	0.	0.	5.16E-09	1.45E-07	0.	0.	0.	0.	0.	0.	0.	0.	1.50E-07
53	5.50	0.	0.	0.	1.23E-08	6.46E-07	0.	0.	0.	0.	0.	0.	0.	0.	6.50E-07
54	5.40	0.	0.	0.	7.43E-09	1.01E-08	0.	0.	0.	0.	0.	0.	0.	0.	2.55E-08
55	5.30	0.	0.	0.	5.83E-09	2.13E-07	0.	0.	0.	0.	0.	0.	0.	0.	2.19E-07
56	5.20	0.	0.	0.	4.35E-09	7.67E-08	0.	0.	0.	0.	0.	0.	0.	0.	8.10E-08
57	5.10	0.	0.	0.	2.59E-09	3.18E-08	0.	0.	0.	0.	0.	0.	0.	0.	3.44E-08
58	5.00	3.60E-08	0.	0.	1.37E-09	5.47E-08	0.	0.	0.	0.	0.	0.	0.	0.	9.21E-08
59	4.90	4.82E-08	0.	0.	1.13E-09	6.86E-09	0.	0.	0.	0.	0.	0.	0.	0.	5.62E-08
60	4.80	4.77E-08	0.	0.	1.26E-09	1.55E-08	0.	0.	0.	0.	0.	0.	0.	0.	6.44E-08
61	4.70	3.54E-08	0.	0.	8.02E-10	1.56E-09	0.	0.	0.	0.	0.	0.	0.	0.	3.78E-08
62	4.60	2.77E-08	0.	0.	5.86E-10	4.16E-09	0.	0.	0.	0.	0.	0.	0.	0.	3.24E-08
63	4.50	1.72E-08	0.	1.17E-23	3.31E-10	3.77E-10	0.	0.	0.	0.	0.	0.	0.	0.	1.79E-08
64	4.40	1.07E-08	0.	3.13E-22	2.17E-10	9.37E-10	0.	0.	0.	0.	0.	0.	0.	0.	1.18E-08
65	4.30	6.22E-09	0.	4.43E-23	1.34E-10	1.63E-10	0.	0.	0.	0.	0.	0.	0.	0.	6.53E-09
66	4.20	3.68E-09	0.	2.47E-21	8.72E-11	1.71E-10	0.	0.	0.	0.	0.	0.	0.	0.	3.95E-09
67	4.10	2.47E-09	0.	2.34E-23	4.99E-11	6.28E-11	0.	0.	0.	0.	0.	0.	0.	0.	2.59E-09
68	4.00	1.32E-09	0.	2.53E-21	3.32E-11	1.34E-11	0.	0.	0.	0.	0.	0.	0.	0.	1.37E-09
69	3.90	6.04E-10	0.	3.41E-21	1.47E-11	1.51E-11	0.	0.	0.	0.	0.	0.	0.	0.	6.41E-10
70	3.80	5.27E-10	0.	3.58E-22	1.35E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.48E-10
71	3.70	2.10E-10	0.	5.75E-21	4.21E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.23E-10
72	3.60	1.23E-10	0.	1.03E-22	4.79E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.36E-10
73	3.50	7.36E-11	0.	1.47E-21	1.25E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.30E-11
74	3.40	3.36E-11	0.	3.36E-23	1.43E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.43E-11
75	3.30	1.86E-11	0.	2.33E-22	3.92E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.85E-11
76	3.20	8.74E-12	0.	8.93E-24	3.60E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.89E-11
77	3.10	4.56E-12	0.	3.12E-23	1.34E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-11
78	3.00	2.26E-12	0.	1.83E-24	8.50E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.20E-11
79	2.90	9.81E-13	0.	3.22E-24	2.20E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-11
80	2.80	6.19E-13	0.	2.53E-25	5.65E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.57E-12
81	2.70	1.55E-13	0.	2.98E-25	5.85E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.62E-12
82	2.60	1.89E-14	0.	3.83E-26	5.42E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.95E-12
83	2.50	6.85E-16	0.	1.74E-26	4.54E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.26E-12
84	2.40	0.	2.27E-23	0.	2.10E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.64E-12
85	2.30	0.	3.12E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.80E-12
86	2.20	0.	3.41E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.99E-12
87	2.10	0.	3.14E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.16E-12
88	2.00	0.	3.95E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.16E-12
89	1.90	0.	3.46E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.39E-12
90	1.80	0.	1.46E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.60E-12
91	1.70	0.	4.14E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-12
92	1.60	0.	9.31E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.30E-13
93	1.50	0.	3.47E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.59E-13
94	1.40	0.	1.86E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.80E-13
95	1.30	0.	2.43E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-19
96	1.20	0.	1.55E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-18
97	1.10	0.	1.82E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.25E-13
98	1.00	0.	5.11E-19	0.	0.	0.	0.	8.25E-13	0.	0.	0.	0.	0.	0.	1.79E-13
99	0.90	0.	1.15E-19	0.	0.	0.	0.	6.60E-12	0.	0.	0.	0.	0.	0.	6.60E-12
100	0.80	0.	6.32E-20	0.	0.	0.	0.	1.91E-12	0.	0.	0.	0.	0.	0.	1.91E-12
101	0.70	0.	1.04E-20	0.	0.	0.	0.	3.76E-11	0.	0.	0.	0.	0.	0.	3.76E-11
102	0.60	0.	1.19E-25	0.	0.	0.	0.	1.03E-11	0.	0.	0.	0.	0.	0.	1.03E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON ENERGY E.V.	02 S-R RANDS	02 S-R CONT.	N2 R-W NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET	FREP-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.		0.	4.06E-10	0.	0.	0.	0.	0.	0.	0.	4.06E-10
2 10.60 0.		0.	2.13E-10	0.	0.	0.	0.	0.	0.	0.	2.13E-10
3 10.50 0.		0.	1.33E-10	0.	0.	0.	0.	0.	0.	0.	1.33E-10
4 10.40 0.		0.	8.61E-11	0.	0.	0.	0.	0.	0.	0.	8.61E-11
5 10.30 0.		0.	4.08E-11	0.	0.	0.	0.	0.	0.	0.	4.08E-11
6 10.20 0.		0.	2.78E-11	0.	0.	0.	0.	0.	0.	0.	2.78E-11
7 10.10 0.		0.	1.68E-11	0.	0.	0.	0.	0.	0.	0.	1.68E-11
8 10.00 0.		0.	7.00E-12	0.	0.	0.	0.	0.	0.	0.	7.00E-12
9 9.90 0.		0.	6.21E-12	0.	0.	0.	0.	0.	0.	0.	6.21E-12
10 9.80 0.		0.	3.44E-12	0.	0.	0.	0.	0.	0.	0.	3.44E-12
11 9.70 0.		0.	1.31E-12	0.	0.	0.	0.	0.	0.	0.	1.31E-12
12 9.60 0.		0.	1.44E-12	0.	0.	0.	0.	0.	0.	0.	1.44E-12
13 9.50 0.		2.64E-06	4.83E-13	0.	0.	0.	0.	0.	0.	0.	2.64E-06
14 9.40 0.		9.76E-06	3.14E-13	0.	0.	0.	0.	0.	0.	0.	9.76E-06
15 9.30 0.		1.69E-05	2.49E-13	0.	0.	0.	0.	0.	0.	0.	1.69E-05
16 9.20 0.		2.41E-05	6.09E-14	0.	0.	0.	0.	0.	0.	0.	2.41E-05
17 9.10 0.		3.18E-05	9.15E-14	0.	0.	0.	0.	0.	0.	0.	3.18E-05
18 9.00 0.		3.94E-05	2.98E-14	0.	0.	0.	0.	0.	0.	0.	3.94E-05
19 8.90 0.		4.75E-05	1.92E-14	0.	0.	0.	0.	0.	0.	0.	4.75E-05
20 8.80 0.		4.98E-05	1.25E-14	0.	0.	0.	0.	0.	0.	0.	4.98E-05
21 8.70 0.		4.79E-05	4.15E-15	0.	0.	0.	0.	0.	0.	0.	4.79E-05
22 8.60 0.		4.60E-05	71E-15	0.	0.	0.	0.	0.	0.	0.	4.60E-05
23 8.50 0.		4.38E-05	57E-15	0.	0.	0.	0.	0.	0.	0.	4.38E-05
24 8.40 0.		4.12E-05	1.34E-15	0.	0.	0.	0.	0.	0.	0.	4.12E-05
25 8.30 0.		3.82E-05	4.43E-16	0.	0.	0.	0.	0.	0.	0.	3.82E-05
26 8.20 0.		3.53E-05	3.48E-16	0.	0.	0.	0.	0.	0.	0.	3.53E-05
27 8.10 0.		3.25E-05	1.42E-16	0.	0.	0.	0.	0.	0.	0.	3.25E-05
28 8.00 0.		2.97E-05	9.82E-17	0.	0.	0.	0.	0.	0.	0.	2.97E-05
29 7.90 0.		2.67E-05	4.27E-17	0.	0.	0.	0.	0.	0.	0.	2.67E-05
30 7.80 0.		2.38E-05	3.03E-17	0.	0.	0.	0.	0.	0.	0.	2.38E-05
31 7.70 0.		2.09E-05	1.42E-17	0.	0.	0.	0.	0.	0.	0.	2.09E-05
32 7.60 0.		1.81E-05	7.94E-18	0.	4.38E-14	0.	0.	0.	0.	0.	1.81E-05
33 7.50 0.		1.53E-05	4.09E-18	0.	1.46E-11	0.	0.	0.	0.	0.	1.53E-05
34 7.40 0.		1.30E-05	2.11E-18	0.	6.71E-11	0.	0.	0.	0.	0.	1.30E-05
35 7.30 0.		1.09E-05	1.10E-18	0.	4.02E-11	0.	0.	0.	0.	0.	1.09E-05
36 7.20 0.		9.08E-06	5.53E-19	0.	1.46E-09	0.	0.	0.	0.	0.	9.08E-06
37 7.10 0.		7.32E-06	2.99E-19	0.	1.07E-10	0.	0.	0.	0.	0.	7.32E-06
38 7.00 1.40E-07		0.	1.49E-19	0.	3.41E-09	0.	0.	0.	0.	0.	1.44E-07
39 6.90 2.00E-07		0.	7.78E-20	0.	6.83E-09	0.	0.	0.	0.	0.	2.07E-07
40 6.80 1.24E-07		0.	4.00E-20	0.	1.24E-09	0.	0.	0.	0.	0.	1.25E-07
41 6.70 6.34E-08		0.	1.96E-20	0.	1.83E-08	0.	0.	0.	0.	0.	8.17E-08
42 6.60 2.94E-08		0.	9.63E-21	0.	1.53E-08	0.	0.	0.	0.	0.	4.47E-08
43 6.50 1.16E-08		0.	3.63E-21	0.	3.84E-09	0.	0.	0.	0.	0.	1.53E-08
44 6.40 4.12E-09		0.	9.53E-22	1.59E-09	4.71E-08	0.	0.	0.	0.	0.	5.38E-08
45 6.30 1.39E-09		0.	1.54E-22	3.79E-09	2.70E-08	0.	0.	0.	0.	0.	3.22E-08
46 6.20 3.69E-10		0.	2.00F-23	3.55E-09	5.83E-09	0.	0.	0.	0.	0.	9.75E-09
47 6.10 8.75E-11		0.	2.66E-24	6.14E-09	9.63E-08	0.	0.	0.	0.	0.	1.83E-07
48 6.00 2.18E-11		0.	2.88E-25	2.21E-09	1.20E-08	0.	0.	0.	0.	0.	1.42E-08
49 5.90 3.34E-12		0.	1.61E-26	2.96E-09	8.25E-08	0.	0.	0.	0.	0.	9.21E-09
50 5.80 3.59E-13		0.	2.98E-28	2.89E-09	1.95E-08	0.	0.	0.	0.	0.	2.24E-08
51 5.70 2.39E-14		0.	0.	1.84E-09	1.14E-09	0.	0.	0.	0.	0.	2.98E-09

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON O2 S-R ENERGY RANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO RETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60 8.49E-16	0.	0.	4.71E-10	1.32E-08	0.	0.	0.	0.	0.	0.	1.37E-08
53	5.50 0.	0.	0.	1.12E-09	5.90E-08	0.	0.	0.	0.	0.	0.	6.01E-08
54	5.40 0.	0.	0.	6.79E-10	1.65E-09	0.	0.	0.	0.	0.	0.	2.33E-09
55	5.30 0.	0.	0.	5.33E-10	1.95E-08	0.	0.	0.	0.	0.	0.	2.60E-08
56	5.20 0.	0.	0.	3.97E-10	7.00E-09	0.	0.	0.	0.	0.	0.	7.40E-09
57	5.10 0.	0.	0.	2.37E-10	2.90E-09	0.	1.40E-13	0.	0.	0.	0.	3.14E-09
58	5.00 3.01E-09	0.	0.	1.25E-10	5.00E-09	0.	1.45E-13	0.	0.	0.	0.	6.13E-09
59	4.90 4.02E-09	0.	0.	1.04E-10	6.26E-10	0.	1.50E-13	0.	0.	0.	0.	4.75E-09
60	4.80 3.97E-09	0.	0.	1.15E-10	1.41E-09	0.	1.54E-13	0.	0.	0.	0.	5.50E-09
61	4.70 2.95E-09	0.	0.	7.33E-11	1.42E-10	0.	1.58E-13	0.	0.	0.	0.	3.17E-09
62	4.60 2.31E-09	0.	0.	5.33E-11	7.00E-10	0.	1.61E-13	0.	0.	0.	0.	2.74E-09
63	4.50 1.44E-09	0.	1.17E-24	3.02E-11	3.45E-11	0.	1.66E-13	0.	0.	0.	0.	1.50E-09
64	4.40 8.91E-10	0.	3.13E-23	1.99E-11	8.56E-11	0.	1.70E-13	0.	0.	0.	0.	9.96E-10
65	4.30 5.19E-10	0.	4.43E-24	1.22E-11	1.49E-11	0.	1.74E-13	0.	0.	0.	0.	5.46E-10
66	4.20 3.07E-10	0.	2.47E-22	7.96E-12	1.56E-11	0.	1.78E-13	0.	0.	0.	0.	3.31E-10
67	4.10 2.06E-10	0.	2.34E-24	4.56E-12	5.74E-12	0.	1.83E-13	0.	0.	0.	0.	2.17E-10
68	4.00 1.10E-10	0.	2.53E-22	3.03E-12	1.23E-12	0.	1.90E-13	0.	0.	0.	0.	1.15E-10
69	3.90 5.04E-11	0.	3.41E-22	1.34E-12	1.30E-12	0.	1.96E-13	0.	0.	0.	0.	5.33E-11
70	3.80 4.39E-11	0.	3.56E-23	1.24E-12	1.30E-12	0.	2.04E-13	0.	0.	0.	0.	4.54E-11
71	3.70 1.75E-11	0.	5.74E-22	3.64E-13	0.	0.	2.13E-13	0.	0.	0.	0.	1.81E-11
72	3.60 1.03E-11	0.	1.03E-23	4.38E-13	0.	0.	2.22E-13	0.	0.	0.	0.	1.09E-11
73	3.50 6.13E-12	0.	1.46E-22	1.14E-13	0.	0.	2.32E-13	0.	0.	0.	0.	6.40E-12
74	3.40 2.80E-12	0.	3.36E-24	1.31E-13	0.	0.	2.43E-13	0.	0.	0.	0.	3.10E-12
75	3.30 1.55E-12	0.	2.33E-23	3.58E-14	0.	0.	2.51E-13	0.	0.	0.	0.	1.84E-12
76	3.20 7.20E-13	0.	6.94E-25	3.36E-14	0.	0.	2.57E-13	0.	0.	0.	0.	1.02E-12
77	3.10 3.80E-13	0.	3.12E-24	1.22E-14	0.	0.	2.60E-13	0.	0.	0.	0.	6.53E-13
78	3.00 1.88E-13	0.	1.83E-25	7.76E-15	0.	0.	2.54E-13	0.	0.	0.	0.	4.50E-13
79	2.90 8.14E-14	0.	3.22E-25	2.01E-15	0.	0.	2.47E-13	0.	0.	0.	0.	2.31E-13
80	2.80 5.16E-14	0.	2.53E-26	5.34E-16	0.	0.	2.36E-13	0.	0.	0.	0.	2.88E-13
81	2.70 1.29E-14	0.	2.90E-26	5.34E-17	0.	0.	2.23E-13	0.	0.	0.	0.	2.34E-13
82	2.60 1.58E-15	0.	3.83E-27	4.95E-18	0.	0.	2.09E-13	0.	0.	0.	0.	2.11E-13
83	2.50 5.71E-17	0.	1.74E-27	4.15E-19	0.	0.	1.91E-13	0.	0.	0.	0.	1.91E-13
84	2.40 0.	2.27E-24	0.	1.92E-20	0.	0.	1.75E-13	0.	0.	0.	0.	1.75E-13
85	2.30 0.	3.12E-22	0.	0.	0.	0.	1.53E-13	0.	0.	0.	0.	1.53E-13
86	2.20 0.	3.42E-22	0.	0.	0.	0.	1.32E-13	0.	0.	0.	0.	1.32E-13
87	2.10 0.	3.14E-21	0.	0.	0.	0.	1.10E-13	0.	0.	0.	0.	1.10E-13
88	2.00 0.	3.95E-21	0.	0.	0.	0.	8.32E-14	0.	0.	0.	0.	8.32E-14
89	1.90 0.	3.46E-20	0.	0.	0.	0.	6.30E-14	0.	0.	0.	0.	6.30E-14
90	1.80 0.	1.46E-19	0.	0.	0.	0.	4.21E-14	0.	0.	0.	0.	4.21E-14
91	1.70 0.	4.14E-20	0.	0.	0.	0.	2.69E-14	0.	0.	0.	0.	2.69E-14
92	1.60 0.	9.31E-20	0.	0.	0.	0.	1.66E-14	0.	0.	0.	0.	1.66E-14
93	1.50 0.	3.47E-20	0.	0.	0.	0.	6.82E-15	0.	0.	0.	0.	6.82E-15
94	1.40 0.	1.84E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.84E-19
95	1.30 0.	2.44E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.84E-19
96	1.20 0.	1.55E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-19
97	1.10 0.	1.82E-20	0.	0.	0.	7.54E-14	0.	0.	0.	0.	0.	7.54E-14
98	1.00 0.	5.11E-20	0.	0.	0.	1.64E-14	0.	0.	0.	0.	0.	1.64E-14
99	0.90 0.	1.15E-20	0.	0.	0.	6.03E-13	0.	0.	0.	0.	0.	6.03E-13
100	0.80 0.	6.33E-21	0.	0.	0.	1.74E-13	0.	0.	0.	0.	0.	1.74E-13
101	0.70 0.	1.04E-21	0.	0.	0.	3.43E-12	0.	0.	0.	0.	0.	3.43E-12
102	0.60 0.	1.19E-26	0.	0.	0.	9.44E-13	0.	0.	0.	0.	0.	9.44E-13



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		3000.		DENSITY (GM/CC)		1.293E-02 ( 1.0E 01 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15
1 10.70 0.	2.67E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.	1.69E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.	1.32E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.	9.57E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.	5.71E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.	4.64E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.	3.48E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.	1.82E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	1.71E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	1.13E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	5.99E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	6.47E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	2.77E 01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	1.03E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	1.78E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	2.52E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	3.24E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	3.95E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	4.65E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	4.84E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	4.61E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	4.39E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	4.16E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	3.93E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	3.72E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	3.49E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	3.24E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	3.00E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	2.77E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	2.55E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	2.32E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.	2.09E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	1.85E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	1.66E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	1.47E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	1.28E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	1.08E 02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.	0.96E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.	0.83E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.	0.70E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.	0.57E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.	0.46E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.	0.36E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.	0.29E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.	0.23E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.	0.19E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.	0.16E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.	0.14E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.	0.12E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.	0.10E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.	0.09E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-02 ( 1.1E 01 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	BETA	GAMMA	VIB-ROT	NO	PHOTO-DET	FREE-ELECT	N	P.E.	TOTAL AIR
52	5.60	4.08E-08	0.	0.	0.	0.	0.	1.00E-06	1.03E-15	0.	0.	1.45E 00
53	5.50	0.	0.	0.	0.	0.	0.	1.00E-06	1.72E-15	0.	0.	3.03E 00
54	5.40	0.	0.	0.	0.	0.	0.	1.01E-06	1.02E-15	0.	0.	4.39E-01
55	5.30	0.	0.	0.	0.	0.	0.	1.03E-06	1.02E-15	0.	0.	1.72E 00
56	5.20	0.	0.	0.	0.	0.	0.	1.04E-06	2.03E-15	0.	0.	5.74E-01
57	5.10	0.	0.	0.	0.	0.	0.	1.04E-06	2.16E-15	0.	0.	5.63E-01
58	5.00	2.39E-01	0.	0.	0.	0.	0.	1.04E-06	2.29E-15	0.	0.	0.20E-01
59	4.90	3.91E-01	0.	0.	0.	0.	0.	1.04E-06	2.43E-15	0.	0.	0.20E-01
60	4.80	4.85E-01	0.	0.	0.	0.	0.	1.04E-06	2.59E-15	0.	0.	7.07E-01
61	4.70	4.38E-01	0.	0.	0.	0.	0.	1.04E-06	2.76E-15	0.	0.	5.53E-01
62	4.60	4.18E-01	0.	0.	0.	0.	0.	1.04E-06	2.94E-15	0.	0.	5.67E-01
63	4.50	3.16E-01	0.	0.	0.	0.	0.	1.04E-06	3.14E-15	0.	0.	3.70E-01
64	4.40	2.39E-01	0.	0.	0.	0.	0.	1.04E-06	3.36E-15	0.	0.	3.06E-01
65	4.30	1.64E-01	0.	0.	0.	0.	0.	1.04E-06	3.60E-15	0.	0.	1.98E-01
66	4.20	1.17E-01	0.	0.	0.	0.	0.	1.04E-06	3.86E-15	0.	0.	1.52E-01
67	4.10	8.72E-02	0.	0.	0.	0.	0.	1.04E-06	4.15E-15	0.	0.	1.11E-01
68	4.00	5.85E-02	0.	0.	0.	0.	0.	1.04E-06	4.47E-15	0.	0.	7.93E-02
69	3.90	3.40E-02	0.	0.	0.	0.	0.	1.04E-06	4.82E-15	0.	0.	5.20E-02
70	3.80	3.21E-02	0.	0.	0.	0.	0.	1.04E-06	5.21E-15	0.	0.	5.01E-02
71	3.70	1.74E-02	0.	0.	0.	0.	0.	1.04E-06	5.63E-15	0.	0.	3.42E-02
72	3.60	1.20E-02	0.	0.	0.	0.	0.	1.04E-06	6.13E-15	0.	0.	2.91E-02
73	3.50	8.35E-03	0.	0.	0.	0.	0.	1.04E-06	6.67E-15	0.	0.	2.48E-02
74	3.40	5.02E-03	0.	0.	0.	0.	0.	1.04E-06	7.26E-15	0.	0.	2.10E-02
75	3.30	3.21E-03	0.	0.	0.	0.	0.	1.04E-06	7.90E-15	0.	0.	1.95E-02
76	3.20	1.89E-03	0.	0.	0.	0.	0.	1.04E-06	8.73E-15	0.	0.	1.82E-02
77	3.10	1.26E-03	0.	0.	0.	0.	0.	1.04E-06	9.61E-15	0.	0.	1.74E-02
78	3.00	7.75E-04	0.	0.	0.	0.	0.	1.04E-06	1.04E-14	0.	0.	1.67E-02
79	2.90	4.30E-04	0.	0.	0.	0.	0.	1.04E-06	1.17E-14	0.	0.	1.62E-02
80	2.80	3.32E-04	0.	0.	0.	0.	0.	1.04E-06	1.30E-14	0.	0.	1.57E-02
81	2.70	1.17E-04	0.	0.	0.	0.	0.	1.04E-06	1.45E-14	0.	0.	1.51E-02
82	2.60	2.46E-05	0.	0.	0.	0.	0.	1.04E-06	1.63E-14	0.	0.	1.46E-02
83	2.50	1.20E-06	0.	0.	0.	0.	0.	1.04E-06	1.83E-14	0.	0.	1.40E-02
84	2.40	0.	7.78E-11	0.	0.	0.	0.	1.04E-06	2.07E-14	0.	0.	1.34E-02
85	2.30	0.	2.43E-09	0.	0.	0.	0.	1.04E-06	2.35E-14	0.	0.	1.29E-02
86	2.20	0.	2.30E-09	0.	0.	0.	0.	1.04E-06	2.69E-14	0.	0.	1.16E-02
87	2.10	0.	1.48E-08	0.	0.	0.	0.	1.04E-06	3.09E-14	0.	0.	1.05E-02
88	2.00	0.	1.10E-08	0.	0.	0.	0.	1.04E-06	3.58E-14	0.	0.	9.82E-03
89	1.90	0.	1.01E-07	0.	0.	0.	0.	1.04E-06	4.17E-14	0.	0.	7.45E-03
90	1.80	0.	1.87E-07	0.	0.	0.	0.	1.04E-06	4.91E-14	0.	0.	5.41E-03
91	1.70	0.	1.14E-07	0.	0.	0.	0.	1.04E-06	5.83E-14	0.	0.	3.75E-03
92	1.60	0.	1.28E-07	0.	0.	0.	0.	1.04E-06	6.99E-14	0.	0.	2.53E-03
93	1.50	0.	9.68E-08	0.	0.	0.	0.	1.04E-06	8.49E-14	0.	0.	1.46E-03
94	1.40	0.	2.42E-07	0.	0.	0.	0.	1.04E-06	1.04E-13	0.	0.	7.78E-04
95	1.30	0.	7.33E-08	0.	0.	0.	0.	1.04E-06	1.30E-13	0.	0.	3.19E-04
96	1.20	0.	1.96E-07	0.	0.	0.	0.	1.04E-06	1.66E-13	0.	0.	1.94E-04
97	1.10	0.	5.50E-08	0.	0.	0.	0.	1.04E-06	2.15E-13	0.	0.	9.75E-06
98	1.00	0.	7.79E-08	0.	0.	0.	0.	1.04E-06	2.87E-13	0.	0.	8.55E-06
99	0.90	0.	3.81E-08	0.	0.	0.	0.	1.04E-06	3.94E-13	0.	0.	6.56E-05
100	0.80	0.	1.67E-08	0.	0.	0.	0.	1.04E-06	5.62E-13	0.	0.	1.01E-04
101	0.70	0.	4.43E-09	0.	0.	0.	0.	1.04E-06	8.42E-13	0.	0.	3.24E-04
102	0.60	0.	1.84E-12	0.	0.	0.	0.	1.04E-06	1.34E-12	0.	0.	3.42E-04

TEMPERATURE (DEGREES K)	3000.	DENSITY (GM/CC)	1.293E-03	( 1.0E 00 NORMAL)
ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)				

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

[illegible]

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-04 X 1.0E-01 NORMAL)

PHOTON ENERGY E.V.	02 S-R HANDS	02 S-R CONT.	N2 R-H NO. 1	NO BETA	NO GAMMA	NO 2	Q~ PHOTO-DET (IONS)	FREP-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.		0.	2.67E-03	0.	0.	0.	2.26E-08 0.	0.	0.	0.	2.67E-03
2 10.60 0.		0.	1.70E-03	0.	0.	0.	2.27E-08 0.	0.	0.	0.	1.70E-03
3 10.50 0.		0.	1.33E-03	0.	0.	0.	2.27E-08 0.	0.	0.	0.	1.33E-03
4 10.40 0.		0.	9.59E-04	0.	0.	0.	2.27E-08 0.	0.	0.	0.	9.59E-04
5 10.30 0.		0.	5.72E-04	0.	0.	0.	2.28E-08 0.	0.	0.	0.	5.72E-04
6 10.20 0.		0.	4.65E-04	0.	0.	0.	2.28E-08 0.	0.	0.	0.	4.65E-04
7 10.10 0.		0.	3.49E-04	0.	0.	0.	2.28E-08 0.	0.	0.	0.	3.49E-04
8 10.00 0.		0.	1.82E-04	0.	0.	0.	2.28E-08 0.	0.	0.	0.	1.82E-04
9 9.90 0.		0.	1.72E-04	0.	0.	0.	2.29E-08 0.	0.	0.	0.	1.72E-04
10 9.80 0.		0.	1.14E-04	0.	0.	0.	2.29E-08 0.	0.	0.	0.	1.14E-04
11 9.70 0.		0.	6.00E-05	0.	0.	0.	2.30E-08 0.	0.	0.	0.	6.00E-05
12 9.60 0.		0.	6.48E-05	0.	0.	0.	2.30E-08 0.	0.	0.	0.	6.48E-05
13 9.50 0.		0.	3.17E-05	0.	0.	0.	2.31E-08 0.	0.	0.	0.	3.17E-05
14 9.40 0.		0.	2.50E-05	0.	0.	0.	2.31E-08 0.	0.	0.	0.	2.50E-05
15 9.30 0.		0.	9.25E-05	0.	0.	0.	2.31E-08 0.	0.	0.	0.	9.25E-05
16 9.20 0.		0.	1.60E 00	0.	0.	0.	2.32E-08 0.	0.	0.	0.	1.60E 00
17 9.10 0.		0.	2.28E 00	0.	0.	0.	2.33E-08 0.	0.	0.	0.	2.28E 00
18 9.00 0.		0.	2.92E 00	0.	0.	0.	2.34E-08 0.	0.	0.	0.	2.92E 00
19 8.90 0.		0.	3.56E 00	0.	0.	0.	2.35E-08 0.	0.	0.	0.	3.56E 00
20 8.80 0.		0.	4.20E 00	0.	0.	0.	2.36E-08 0.	0.	0.	0.	4.20E 00
21 8.70 0.		0.	4.36E 00	0.	0.	0.	2.36E-08 0.	0.	0.	0.	4.36E 00
22 8.60 0.		0.	4.16E 00	0.	0.	0.	2.37E-08 0.	0.	0.	0.	4.16E 00
23 8.50 0.		0.	3.95E 00	0.	0.	0.	2.38E-08 0.	0.	0.	0.	3.95E 00
24 8.40 0.		0.	3.75E 00	0.	0.	0.	2.39E-08 0.	0.	0.	0.	3.75E 00
25 8.30 0.		0.	3.54E 00	0.	0.	0.	2.40E-08 0.	0.	0.	0.	3.54E 00
26 8.20 0.		0.	3.35E 00	0.	0.	0.	2.41E-08 0.	0.	0.	0.	3.35E 00
27 8.10 0.		0.	3.14E 00	0.	0.	0.	2.42E-08 0.	0.	0.	0.	3.14E 00
28 8.00 0.		0.	2.93E 00	0.	0.	0.	2.44E-08 0.	0.	0.	0.	2.93E 00
29 7.90 0.		0.	2.71E 00	0.	0.	0.	2.43E-08 0.	0.	0.	0.	2.71E 00
30 7.80 0.		0.	2.50E 00	0.	0.	0.	2.47E-08 0.	0.	0.	0.	2.50E 00
31 7.70 0.		0.	2.30E 00	0.	0.	0.	2.40E-08 0.	0.	0.	0.	2.30E 00
32 7.60 0.		0.	2.09E 00	0.	0.	0.	2.40E-08 0.	0.	0.	0.	2.09E 00
33 7.50 0.		0.	1.88E 00	0.	0.	0.	2.50E-08 0.	0.	0.	0.	1.88E 00
34 7.40 0.		0.	1.67E 00	0.	0.	0.	2.52E-08 0.	0.	0.	0.	1.67E 00
35 7.30 0.		0.	1.49E 00	0.	0.	0.	2.53E-08 0.	0.	0.	0.	1.49E 00
36 7.20 0.		0.	1.33E 00	0.	0.	0.	2.54E-08 0.	0.	0.	0.	1.33E 00
37 7.10 0.		0.	1.15E 00	0.	0.	0.	2.56E-08 0.	0.	0.	0.	1.15E 00
38 7.00 0.		0.	9.76E-01	0.	0.	0.	2.50E-08 0.	0.	0.	0.	9.76E-01
39 6.90 0.		0.	1.47E-09	0.	0.	0.	2.60E-08 0.	0.	0.	0.	1.47E-09
40 6.80 0.		0.	9.50E-10	0.	0.	0.	2.62E-08 0.	0.	0.	0.	9.50E-10
41 6.70 0.		0.	6.20E-10	0.	0.	0.	2.64E-08 0.	0.	0.	0.	6.20E-10
42 6.60 0.		0.	3.75E-10	0.	0.	0.	2.66E-08 0.	0.	0.	0.	3.75E-10
43 6.50 0.		0.	2.31E-10	0.	0.	0.	2.68E-08 0.	0.	0.	0.	2.31E-10
44 6.40 0.		0.	1.16E-10	0.	0.	0.	2.70E-08 0.	0.	0.	0.	1.16E-10
45 6.30 0.		0.	4.04E-11	0.	0.	0.	2.73E-08 0.	0.	0.	0.	4.04E-11
46 6.20 0.		0.	1.09E-11	0.	0.	0.	2.79E-08 0.	0.	0.	0.	1.09E-11
47 6.10 0.		0.	2.67E-12	0.	0.	0.	2.77E-08 0.	0.	0.	0.	2.67E-12
48 6.00 0.		0.	6.19E-13	0.	0.	0.	2.79E-08 0.	0.	0.	0.	6.19E-13
49 5.90 0.		0.	9.89E-14	0.	0.	0.	2.81E-08 0.	0.	0.	0.	9.89E-14
50 5.80 0.		0.	6.38E-15	0.	0.	0.	2.81E-08 0.	0.	0.	0.	6.38E-15
51 5.70 0.		0.	1.36E-16	0.	0.	0.	2.77E-08 0.	0.	0.	0.	1.36E-16
		0.	0.	0.	0.	0.	2.60E-08 0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON Q2 S-B		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-04 ( 1.0E-01 NORMAL)		FREE-FREE		N		TOTAL AIR			
ENERGY BANDS	N2	1ST POS.	2ND POS.	N2	N2*	BETA	NO	GAMMA	VIB-ROT	NO	2	PHOTO-DEY (IONS)	P.E.	0	P.E.
52	5.60	3.67E-10	0.	0.	0.	0.36E-04	1.30E-02	0.	0.	2.42E-00	1.55E-17	0.	0.	1.38E-02	
53	5.59	0.	0.	0.	0.	1.39E-03	2.74E-02	0.	0.	2.43E-00	1.63E-17	0.	0.	2.80E-02	
54	5.40	0.	0.	0.	0.	9.17E-04	3.25E-03	0.	0.	2.44E-00	1.73E-17	0.	0.	4.17E-03	
55	5.30	0.	0.	0.	0.	8.64E-04	1.53E-02	0.	0.	2.46E-00	1.83E-17	0.	0.	1.62E-02	
56	5.20	0.	0.	0.	0.	7.59E-04	4.70E-03	0.	0.	2.47E-00	1.93E-17	0.	0.	5.46E-03	
57	5.10	0.	0.	0.	0.	5.72E-04	4.64E-03	0.	0.	2.49E-00	2.05E-17	0.	0.	5.23E-03	
58	5.00	2.16E-03	0.	0.	0.	3.72E-04	5.09E-03	0.	0.	2.52E-00	2.18E-17	0.	0.	7.63E-03	
59	4.90	3.53E-03	0.	0.	0.	3.39E-04	1.77E-03	0.	0.	2.54E-00	2.31E-17	0.	0.	5.66E-03	
60	4.80	4.37E-03	0.	0.	0.	3.32E-04	2.38E-03	0.	0.	2.56E-00	2.46E-17	0.	0.	7.12E-03	
61	4.70	3.95E-03	0.	0.	0.	2.66E-04	6.84E-04	0.	0.	2.58E-00	2.62E-17	0.	0.	4.92E-03	
62	4.60	3.77E-03	0.	0.	0.	2.27E-04	1.85E-03	0.	0.	2.60E-00	2.79E-17	0.	0.	5.06E-03	
63	4.50	2.85E-03	0.	0.	0.	1.49E-04	2.72E-04	0.	0.	2.62E-00	2.98E-17	0.	0.	3.29E-03	
64	4.40	2.15E-03	0.	0.	0.	1.20E-04	3.78E-04	0.	0.	2.64E-00	3.19E-17	0.	0.	2.67E-03	
65	4.30	1.44E-03	0.	0.	0.	8.49E-05	9.37E-05	0.	0.	2.66E-00	3.42E-17	0.	0.	1.67E-03	
66	4.20	1.05E-03	0.	0.	0.	6.97E-05	1.13E-04	0.	0.	2.68E-00	3.67E-17	0.	0.	1.29E-03	
67	4.10	7.87E-04	0.	0.	0.	4.76E-05	3.05E-05	0.	0.	2.69E-00	3.94E-17	0.	0.	8.79E-04	
68	4.00	5.27E-04	0.	0.	0.	3.64E-05	1.34E-05	0.	0.	2.70E-00	4.25E-17	0.	0.	5.91E-04	
69	3.90	3.06E-04	0.	0.	0.	2.10E-05	1.03E-05	0.	0.	2.72E-00	4.58E-17	0.	0.	3.52E-04	
70	3.80	2.90E-04	0.	0.	0.	1.42E-05	2.60E-00	0.	0.	2.74E-00	4.95E-17	0.	0.	3.25E-04	
71	3.70	1.57E-04	0.	0.	0.	1.43E-05	2.64E-00	0.	0.	2.76E-00	5.37E-17	0.	0.	1.81E-04	
72	3.60	1.08E-04	0.	0.	0.	1.44E-05	2.67E-00	0.	0.	2.78E-00	5.83E-17	0.	0.	1.33E-04	
73	3.50	7.53E-05	0.	0.	0.	1.44E-05	2.68E-00	0.	0.	2.80E-00	6.34E-17	0.	0.	9.48E-05	
74	3.40	4.53E-05	0.	0.	0.	1.45E-05	1.31E-00	0.	0.	2.82E-00	6.92E-17	0.	0.	6.46E-05	
75	3.30	2.90E-05	0.	0.	0.	1.45E-05	1.31E-00	0.	0.	2.84E-00	7.57E-17	0.	0.	4.52E-05	
76	3.20	1.71E-05	0.	0.	0.	1.45E-05	1.31E-00	0.	0.	2.86E-00	8.30E-17	0.	0.	3.55E-05	
77	3.10	1.14E-05	0.	0.	0.	1.44E-05	1.32E-00	0.	0.	2.88E-00	9.13E-17	0.	0.	2.67E-05	
78	3.00	6.99E-06	0.	0.	0.	1.42E-05	1.32E-00	0.	0.	2.90E-00	1.01E-16	0.	0.	2.20E-05	
79	2.90	3.87E-06	0.	0.	0.	1.39E-05	1.32E-00	0.	0.	2.92E-00	1.11E-16	0.	0.	1.63E-05	
80	2.80	2.99E-06	0.	0.	0.	1.35E-05	1.32E-00	0.	0.	2.94E-00	1.24E-16	0.	0.	1.78E-05	
81	2.70	1.85E-06	0.	0.	0.	1.31E-05	1.32E-00	0.	0.	2.96E-00	1.38E-16	0.	0.	1.46E-05	
82	2.60	2.22E-07	0.	0.	0.	1.31E-05	1.32E-00	0.	0.	2.98E-00	1.55E-16	0.	0.	1.34E-05	
83	2.50	1.08E-08	0.	0.	0.	1.26E-05	1.32E-00	0.	0.	3.00E-00	1.74E-16	0.	0.	1.26E-05	
84	2.40	0.	7.80E-13	0.	0.	1.21E-05	1.32E-00	0.	0.	3.02E-00	1.97E-16	0.	0.	1.21E-05	
85	2.30	0.	2.43E-11	0.	0.	1.13E-05	1.31E-00	0.	0.	3.04E-00	2.23E-16	0.	0.	1.13E-05	
86	2.20	0.	2.30E-11	0.	0.	1.04E-05	1.30E-00	0.	0.	3.06E-00	2.55E-16	0.	0.	1.05E-05	
87	2.10	0.	1.49E-10	0.	0.	9.43E-06	1.30E-00	0.	0.	3.08E-00	2.94E-16	0.	0.	9.45E-06	
88	2.00	0.	1.02E-09	0.	0.	7.95E-06	1.28E-00	0.	0.	3.10E-00	3.40E-16	0.	0.	7.97E-06	
89	1.90	0.	1.07E-09	0.	0.	6.70E-06	1.21E-00	0.	0.	3.12E-00	3.97E-16	0.	0.	6.72E-06	
90	1.80	0.	1.87E-09	0.	0.	4.88E-06	1.16E-00	0.	0.	3.14E-00	4.66E-16	0.	0.	4.89E-06	
91	1.70	0.	1.14E-09	0.	0.	3.38E-06	1.09E-00	0.	0.	3.16E-00	5.54E-16	0.	0.	3.40E-06	
92	1.60	0.	1.29E-09	0.	0.	2.28E-06	9.22E-09	0.	0.	3.18E-00	6.64E-16	0.	0.	2.29E-06	
93	1.50	0.	9.76E-10	0.	0.	1.31E-06	4.19E-09	0.	0.	3.20E-00	8.06E-16	0.	0.	1.32E-06	
94	1.40	0.	2.42E-09	0.	0.	7.01E-07	0.	0.	0.	3.22E-00	9.92E-16	0.	0.	7.04E-07	
95	1.30	0.	7.34E-10	0.	0.	2.79E-07	0.	0.	0.	3.24E-00	1.24E-15	0.	0.	2.80E-07	
96	1.20	0.	1.97E-09	0.	0.	0.	0.	0.	0.	3.26E-00	1.58E-15	0.	0.	1.97E-09	
97	1.10	0.	5.51E-10	0.	0.	0.	0.	0.	0.	3.28E-00	2.05E-15	0.	0.	1.32E-09	
98	1.00	0.	3.81E-10	0.	0.	0.	0.	0.	0.	3.30E-00	2.73E-15	0.	0.	8.13E-08	
99	0.90	0.	3.81E-10	0.	0.	0.	0.	0.	0.	3.32E-00	3.75E-15	0.	0.	6.24E-07	
100	0.80	0.	1.67E-10	0.	0.	0.	0.	0.	0.	3.34E-00	5.34E-15	0.	0.	9.61E-07	
101	0.70	0.	4.44E-11	0.	0.	0.	0.	0.	0.	3.36E-00	8.06E-15	0.	0.	3.08E-06	
102	0.60	0.	1.84E-14	0.	0.	0.	0.	0.	0.	3.38E-00	1.27E-14	0.	0.	3.25E-06	

# ABSORPTION COEFFICIENTS OF MATERIALS AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		3000.		DENSITY (GM/CC)		1.293E-05 (10.0E-03 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY		NO. 1		NO. 2		NO. 3		NO. 4		NO. 5		NO. 6		NO. 7	
E.V.		CONT.		RETA		GAMMA		PHOTO-DET		P.E.		P.E.		P.E.	
1	10.70	0.	2.68E-04	0.	0.	0.	0.	1.90E-09	0.	0.	0.	0.	0.	2.68E-04	0.
2	10.60	0.	1.70E-04	0.	0.	0.	0.	1.91E-09	0.	0.	0.	0.	0.	1.70E-04	0.
3	10.50	0.	1.33E-04	0.	0.	0.	0.	1.91E-09	0.	0.	0.	0.	0.	1.33E-04	0.
4	10.40	0.	9.62E-05	0.	0.	0.	0.	1.91E-09	0.	0.	0.	0.	0.	9.62E-05	0.
5	10.30	0.	5.74E-05	0.	0.	0.	0.	1.91E-09	0.	0.	0.	0.	0.	5.74E-05	0.
6	10.20	0.	4.67E-05	0.	0.	0.	0.	1.92E-09	0.	0.	0.	0.	0.	4.67E-05	0.
7	10.10	0.	3.50E-05	0.	0.	0.	0.	1.92E-09	0.	0.	0.	0.	0.	3.50E-05	0.
8	10.00	0.	1.83E-05	0.	0.	0.	0.	1.92E-09	0.	0.	0.	0.	0.	1.83E-05	0.
9	9.90	0.	1.72E-05	0.	0.	0.	0.	1.93E-09	0.	0.	0.	0.	0.	1.72E-05	0.
10	9.80	0.	1.14E-05	0.	0.	0.	0.	1.93E-09	0.	0.	0.	0.	0.	1.14E-05	0.
11	9.70	0.	6.02E-06	0.	0.	0.	0.	1.93E-09	0.	0.	0.	0.	0.	6.02E-06	0.
12	9.60	0.	6.50E-06	0.	0.	0.	0.	1.94E-09	0.	0.	0.	0.	0.	6.50E-06	0.
13	9.50	0.	3.18E-06	0.	0.	0.	0.	1.94E-09	0.	0.	0.	0.	0.	3.18E-06	0.
14	9.40	0.	7.22E-07	0.	0.	0.	0.	1.95E-09	0.	0.	0.	0.	0.	7.22E-07	0.
15	9.30	0.	1.25E-07	0.	0.	0.	0.	1.95E-09	0.	0.	0.	0.	0.	1.25E-07	0.
16	9.20	0.	1.78E-07	0.	0.	0.	0.	1.95E-09	0.	0.	0.	0.	0.	1.78E-07	0.
17	9.10	0.	2.28E-07	0.	0.	0.	0.	1.97E-09	0.	0.	0.	0.	0.	2.28E-07	0.
18	9.00	0.	2.78E-07	0.	0.	0.	0.	1.98E-09	0.	0.	0.	0.	0.	2.78E-07	0.
19	8.90	0.	3.29E-07	0.	0.	0.	0.	1.98E-09	0.	0.	0.	0.	0.	3.29E-07	0.
20	8.80	0.	3.41E-07	0.	0.	0.	0.	1.99E-09	0.	0.	0.	0.	0.	3.41E-07	0.
21	8.70	0.	3.25E-07	0.	0.	0.	0.	2.00E-09	0.	0.	0.	0.	0.	3.25E-07	0.
22	8.60	0.	3.09E-07	0.	0.	0.	0.	2.00E-09	0.	0.	0.	0.	0.	3.09E-07	0.
23	8.50	0.	2.77E-07	0.	0.	0.	0.	2.01E-09	0.	0.	0.	0.	0.	2.77E-07	0.
24	8.40	0.	2.77E-07	0.	0.	0.	0.	2.02E-09	0.	0.	0.	0.	0.	2.77E-07	0.
25	8.30	0.	2.62E-07	0.	0.	0.	0.	2.03E-09	0.	0.	0.	0.	0.	2.62E-07	0.
26	8.20	0.	2.45E-07	0.	0.	0.	0.	2.04E-09	0.	0.	0.	0.	0.	2.45E-07	0.
27	8.10	0.	2.28E-07	0.	0.	0.	0.	2.05E-09	0.	0.	0.	0.	0.	2.28E-07	0.
28	8.00	0.	2.11E-07	0.	0.	0.	0.	2.06E-09	0.	0.	0.	0.	0.	2.11E-07	0.
29	7.90	0.	1.95E-07	0.	0.	0.	0.	2.07E-09	0.	0.	0.	0.	0.	1.95E-07	0.
30	7.80	0.	1.79E-07	0.	0.	0.	0.	2.08E-09	0.	0.	0.	0.	0.	1.79E-07	0.
31	7.70	0.	1.63E-07	0.	0.	0.	0.	2.10E-09	0.	0.	0.	0.	0.	1.63E-07	0.
32	7.60	0.	1.47E-07	0.	0.	0.	0.	2.11E-09	0.	0.	0.	0.	0.	1.47E-07	0.
33	7.50	0.	1.31E-07	0.	0.	0.	0.	2.12E-09	0.	0.	0.	0.	0.	1.31E-07	0.
34	7.40	0.	1.17E-07	0.	0.	0.	0.	2.13E-09	0.	0.	0.	0.	0.	1.17E-07	0.
35	7.30	0.	1.04E-07	0.	0.	0.	0.	2.14E-09	0.	0.	0.	0.	0.	1.04E-07	0.
36	7.20	0.	1.99E-07	0.	0.	0.	0.	2.15E-09	0.	0.	0.	0.	0.	1.99E-07	0.
37	7.10	0.	7.62E-07	0.	0.	0.	0.	2.17E-09	0.	0.	0.	0.	0.	7.62E-07	0.
38	7.00	0.	6.30E-07	0.	0.	0.	0.	2.19E-09	0.	0.	0.	0.	0.	6.30E-07	0.
39	6.90	0.	1.00E-07	0.	0.	0.	0.	2.20E-09	0.	0.	0.	0.	0.	1.00E-07	0.
40	6.80	0.	6.98E-07	0.	0.	0.	0.	2.22E-09	0.	0.	0.	0.	0.	6.98E-07	0.
41	6.70	0.	4.01E-07	0.	0.	0.	0.	2.24E-09	0.	0.	0.	0.	0.	4.01E-07	0.
42	6.60	0.	2.01E-07	0.	0.	0.	0.	2.26E-09	0.	0.	0.	0.	0.	2.01E-07	0.
43	6.50	0.	9.05E-07	0.	0.	0.	0.	2.28E-09	0.	0.	0.	0.	0.	9.05E-07	0.
44	6.40	0.	3.73E-07	0.	0.	0.	0.	2.29E-09	0.	0.	0.	0.	0.	3.73E-07	0.
45	6.30	0.	1.54E-07	0.	0.	0.	0.	2.30E-09	0.	0.	0.	0.	0.	1.54E-07	0.
46	6.20	0.	5.00E-07	0.	0.	0.	0.	2.31E-09	0.	0.	0.	0.	0.	5.00E-07	0.
47	6.10	0.	1.54E-06	0.	0.	0.	0.	2.33E-09	0.	0.	0.	0.	0.	1.54E-06	0.
48	6.00	0.	4.71E-07	0.	0.	0.	0.	2.35E-09	0.	0.	0.	0.	0.	4.71E-07	0.
49	5.90	0.	8.91E-07	0.	0.	0.	0.	2.36E-09	0.	0.	0.	0.	0.	8.91E-07	0.
50	5.80	0.	1.04E-06	0.	0.	0.	0.	2.33E-09	0.	0.	0.	0.	0.	1.04E-06	0.
51	5.70	0.	7.30E-07	0.	0.	0.	0.	2.19E-09	0.	0.	0.	0.	0.	7.30E-07	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-03 (10.0E-03 NORMAL)

PHOTON O2 S-R	ENERGY BANDS	1ST POS.	N2	2ND POS.	1ST NEG.	N2+	BETA	GAMMA	VIB-ROT	NO	NO	2	PHOTO-BET (IONS)	FREE-FREE	N	P.E.	TOTAL AIM
52	5.60 2.86E-11	0.	0.	0.	0.	0.	7.35E-05	1.15E-03	0.	0.	0.	0.	2.03E-09	1.37E-18	0.	0.	1.22E-03
53	5.50 0.	0.	0.	0.	0.	0.	1.23E-04	2.42E-03	0.	0.	0.	0.	2.04E-09	1.44E-18	0.	0.	2.54E-03
54	5.40 0.	0.	0.	0.	0.	0.	8.11E-05	2.88E-04	0.	0.	0.	0.	2.05E-09	1.53E-18	0.	0.	3.69E-04
55	5.30 0.	0.	0.	0.	0.	0.	7.82E-05	1.36E-03	0.	0.	0.	0.	2.07E-09	1.62E-18	0.	0.	1.43E-03
56	5.20 0.	0.	0.	0.	0.	0.	6.71E-05	4.16E-04	0.	0.	0.	0.	2.08E-09	1.71E-18	0.	0.	4.83E-04
57	5.10 0.	0.	0.	0.	0.	0.	5.04E-05	4.11E-04	0.	0.	0.	0.	2.10E-09	1.81E-18	0.	0.	4.61E-04
58	5.00 1.68E-04	0.	0.	0.	0.	0.	3.29E-05	4.50E-04	0.	0.	0.	0.	2.12E-09	1.92E-18	0.	0.	4.51E-04
59	4.90 2.75E-04	0.	0.	0.	0.	0.	3.00E-05	1.57E-04	0.	0.	0.	0.	2.13E-09	2.04E-18	0.	0.	4.62E-04
60	4.80 3.41E-04	0.	0.	0.	0.	0.	3.11E-05	2.11E-04	0.	0.	0.	0.	2.15E-09	2.17E-18	0.	0.	5.83E-04
61	4.70 3.08E-04	0.	0.	0.	0.	0.	2.35E-05	6.05E-05	0.	0.	0.	0.	2.17E-09	2.32E-18	0.	0.	3.92E-04
62	4.60 2.94E-04	0.	0.	0.	0.	0.	2.01E-05	9.27E-05	0.	0.	0.	0.	2.19E-09	2.47E-18	0.	0.	4.07E-04
63	4.50 2.22E-04	0.	0.	4.32E-14	0.	0.	1.32E-05	2.41E-05	0.	0.	0.	0.	2.20E-09	2.64E-18	0.	0.	2.60E-04
64	4.40 1.68E-04	0.	0.	4.77E-13	0.	0.	1.06E-05	3.34E-05	0.	0.	0.	0.	2.22E-09	2.82E-18	0.	0.	2.12E-04
65	4.30 1.15E-04	0.	0.	2.32E-13	0.	0.	7.48E-06	8.28E-06	0.	0.	0.	0.	2.24E-09	3.03E-18	0.	0.	1.31E-04
66	4.20 8.24E-05	0.	0.	3.98E-12	0.	0.	6.17E-06	9.97E-06	0.	0.	0.	0.	2.26E-09	3.25E-18	0.	0.	9.89E-05
67	4.10 6.13E-05	0.	0.	1.77E-13	0.	0.	4.21E-06	2.69E-06	0.	0.	0.	0.	2.27E-09	3.49E-18	0.	0.	6.86E-05
68	4.00 4.11E-05	0.	0.	4.74E-12	0.	0.	3.22E-06	1.18E-06	0.	0.	0.	0.	2.28E-09	3.76E-18	0.	0.	4.58E-05
69	3.90 2.39E-05	0.	0.	3.79E-12	1.28E-18	0.	1.86E-06	9.12E-07	0.	0.	0.	0.	2.27E-09	4.05E-18	0.	0.	2.70E-05
70	3.80 2.26E-05	0.	0.	1.23E-12	1.47E-16	0.	1.84E-06	0.	0.	0.	0.	0.	2.26E-09	4.38E-18	0.	0.	2.46E-05
71	3.70 1.22E-05	0.	0.	7.08E-12	3.33E-17	0.	8.24E-07	0.	0.	0.	0.	0.	2.22E-09	4.75E-18	0.	0.	1.34E-05
72	3.60 8.44E-06	0.	0.	5.19E-13	2.79E-17	0.	9.42E-07	0.	0.	0.	0.	0.	2.08E-09	5.16E-18	0.	0.	9.74E-06
73	3.50 5.87E-06	0.	0.	2.86E-12	7.98E-16	0.	3.73E-07	0.	0.	0.	0.	0.	1.98E-09	5.61E-18	0.	0.	6.60E-06
74	3.40 3.53E-06	0.	0.	2.47E-13	1.13E-18	0.	4.21E-07	0.	0.	0.	0.	0.	1.10E-09	6.12E-18	0.	0.	4.31E-06
75	3.30 2.26E-06	0.	0.	7.25E-13	6.69E-17	0.	1.77E-07	0.	0.	0.	0.	0.	1.10E-09	6.70E-18	0.	0.	2.79E-06
76	3.20 1.33E-06	0.	0.	9.48E-14	1.26E-15	0.	1.69E-07	0.	0.	0.	0.	0.	1.10E-09	7.34E-18	0.	0.	1.86E-06
77	3.10 8.07E-07	0.	0.	1.50E-13	2.25E-18	0.	9.31E-08	0.	0.	0.	0.	0.	1.10E-09	8.07E-18	0.	0.	1.34E-06
78	3.00 5.45E-07	0.	0.	2.64E-14	7.30E-17	0.	6.45E-08	0.	0.	0.	0.	0.	1.11E-09	8.91E-18	0.	0.	9.63E-07
79	2.90 3.02E-07	0.	0.	2.36E-14	1.75E-16	0.	2.50E-08	0.	0.	0.	0.	0.	1.12E-09	9.86E-18	0.	0.	6.78E-07
80	2.80 2.33E-07	0.	0.	4.97E-15	2.66E-18	0.	8.42E-09	0.	0.	0.	0.	0.	1.11E-09	1.09E-17	0.	0.	5.85E-07
81	2.70 8.20E-08	0.	0.	3.18E-15	3.35E-17	0.	1.75E-09	0.	0.	0.	0.	0.	1.11E-09	1.22E-17	0.	0.	4.19E-07
82	2.60 1.73E-08	0.	0.	9.60E-16	7.55E-18	0.	3.23E-10	0.	0.	0.	0.	0.	1.11E-09	1.37E-17	0.	0.	3.43E-07
83	2.50 8.40E-10	0.	0.	2.64E-16	5.28E-19	0.	4.40E-11	0.	0.	0.	0.	0.	1.11E-09	1.54E-17	0.	0.	3.13E-07
84	2.40 0.	7.82E-14	0.	0.	2.42E-18	0.	2.99E-12	0.	0.	0.	0.	0.	1.11E-09	1.74E-17	0.	0.	3.00E-07
85	2.30 0.	2.44E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.10E-09	1.98E-17	0.	0.	2.80E-07
86	2.20 0.	2.31E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.10E-09	2.26E-17	0.	0.	2.59E-07
87	2.10 0.	1.49E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.09E-09	2.60E-17	0.	0.	2.34E-07
88	2.00 0.	1.11E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.06E-09	3.01E-17	0.	0.	1.97E-07
89	1.90 0.	1.02E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-09	3.51E-17	0.	0.	1.67E-07
90	1.80 0.	1.88E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.74E-10	4.13E-17	0.	0.	1.22E-07
91	1.70 0.	1.14E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.17E-10	4.90E-17	0.	0.	8.45E-08
92	1.60 0.	1.29E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.74E-10	5.88E-17	0.	0.	5.73E-08
93	1.50 0.	9.73E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.53E-10	7.13E-17	0.	0.	3.29E-08
94	1.40 0.	2.43E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.70E-17	0.	0.	1.76E-08
95	1.30 0.	7.36E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.10E-16	0.	0.	6.97E-09
96	1.20 0.	1.97E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.39E-16	0.	0.	1.97E-10
97	1.10 0.	5.53E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-16	0.	0.	7.37E-09
98	1.00 0.	8.83E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.41E-16	0.	0.	7.20E-09
99	0.90 0.	3.82E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.31E-16	0.	0.	5.52E-08
100	0.80 0.	1.68E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.73E-16	0.	0.	8.50E-08
101	0.70 0.	4.45E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.08E-16	0.	0.	2.73E-07
102	0.60 0.	1.85E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.13E-15	0.	0.	2.87E-07



TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY E.V.	G2 S-R COUNTS	S-R CONT.	N2 R-H NO. 1	NO BETA	NO GAMMA	NO 2	D- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.		2.70E-05	0.	0.	0.	1.11E-10 0.	0.	0.	0.	2.70E-05
2 10.60 0.	0.		1.72E-05	0.	0.	0.	1.11E-10 0.	0.	0.	0.	1.72E-05
3 10.50 0.	0.		1.34E-05	0.	0.	0.	1.11E-10 0.	0.	0.	0.	1.34E-05
4 10.40 0.	0.		9.69E-06	0.	0.	0.	1.11E-10 0.	0.	0.	0.	9.69E-06
5 10.30 0.	0.		5.78E-06	0.	0.	0.	1.11E-10 0.	0.	0.	0.	5.78E-06
6 10.20 0.	0.		4.70E-06	0.	0.	0.	1.11E-10 0.	0.	0.	0.	4.70E-06
7 10.10 0.	0.		3.52E-06	0.	0.	0.	1.12E-10 0.	0.	0.	0.	3.52E-06
8 10.00 0.	0.		1.84E-06	0.	0.	0.	1.12E-10 0.	0.	0.	0.	1.84E-06
9 9.90 0.	0.		1.73E-06	0.	0.	0.	1.12E-10 0.	0.	0.	0.	1.73E-06
10 9.80 0.	0.		1.15E-06	0.	0.	0.	1.12E-10 0.	0.	0.	0.	1.15E-06
11 9.70 0.	0.		6.07E-07	0.	0.	0.	1.12E-10 0.	0.	0.	0.	6.07E-07
12 9.60 0.	0.		6.55E-07	0.	0.	0.	1.13E-10 0.	0.	0.	0.	6.55E-07
13 9.50 0.	9.41E-04	3.21E-07		0.	0.	0.	1.13E-10 0.	0.	0.	0.	9.41E-04
14 9.40 0.	3.48E-03	2.30E-07		0.	0.	0.	1.13E-10 0.	0.	0.	0.	3.48E-03
15 9.30 0.	6.03E-03	2.07E-07		0.	0.	0.	1.13E-10 0.	0.	0.	0.	6.03E-03
16 9.20 0.	8.57E-03	8.33E-08		0.	0.	0.	1.14E-10 0.	0.	0.	0.	8.57E-03
17 9.10 0.	1.10E-02	1.01E-07		0.	0.	0.	1.14E-10 0.	0.	0.	0.	1.10E-02
18 9.00 0.	1.34E-02	5.10E-08		0.	0.	0.	1.15E-10 0.	0.	0.	0.	1.34E-02
19 8.90 0.	1.58E-02	3.54E-08		0.	0.	0.	1.15E-10 0.	0.	0.	0.	1.58E-02
20 8.80 0.	1.64E-02	2.84E-08		0.	0.	0.	1.16E-10 0.	0.	0.	0.	1.64E-02
21 8.70 0.	1.57E-02	1.36E-08		0.	0.	0.	1.16E-10 0.	0.	0.	0.	1.57E-02
22 8.60 0.	1.49E-02	1.43E-08		0.	0.	0.	1.16E-10 0.	0.	0.	0.	1.49E-02
23 8.50 0.	2.41E-02	6.63E-09		0.	0.	0.	1.17E-10 0.	0.	0.	0.	2.41E-02
24 8.40 0.	1.33E-02	6.18E-09		0.	0.	0.	1.17E-10 0.	0.	0.	0.	1.33E-02
25 8.30 0.	1.26E-02	3.01E-09		0.	0.	0.	1.18E-10 0.	0.	0.	0.	1.26E-02
26 8.20 0.	1.18E-02	2.59E-09		0.	0.	0.	1.18E-10 0.	0.	0.	0.	1.18E-02
27 8.10 0.	1.10E-02	1.39E-09		0.	0.	0.	1.19E-10 0.	0.	0.	0.	1.10E-02
28 8.00 0.	1.02E-02	1.12E-09		0.	0.	0.	1.19E-10 3.14E-28	0.	0.	0.	1.02E-02
29 7.90 0.	9.42E-03	6.20E-10		0.	0.	0.	1.20E-10 3.24E-20	0.	0.	0.	9.42E-03
30 7.80 0.	8.65E-03	5.13E-10		0.	0.	0.	1.21E-10 3.39E-20	0.	0.	0.	8.65E-03
31 7.70 0.	7.87E-03	2.98E-10		0.	0.	0.	1.22E-10 3.66E-20	0.	0.	0.	7.87E-03
32 7.60 0.	7.08E-03	2.07E-10		0.	1.30E-09	0.	1.22E-10 3.80E-20	0.	0.	0.	7.08E-03
33 7.50 0.	6.30E-03	1.31E-10		0.	7.39E-08	0.	1.23E-10 3.96E-20	0.	0.	0.	6.30E-03
34 7.40 0.	5.62E-03	8.48E-11		0.	1.88E-07	0.	1.24E-10 4.12E-20	0.	0.	0.	5.62E-03
35 7.30 0.	5.00E-03	5.57E-11		0.	5.21E-07	0.	1.24E-10 4.29E-20	0.	0.	0.	5.00E-03
36 7.20 0.	4.34E-03	3.49E-11		0.	5.71E-06	0.	1.25E-10 4.48E-20	0.	0.	0.	4.34E-03
37 7.10 0.	3.68E-03	2.37E-11		0.	1.37E-06	0.	1.26E-10 4.67E-20	0.	0.	0.	3.68E-03
38 7.00 0.	3.04E-05		1.49E-11	0.	2.47E-05	0.	1.27E-10 4.87E-20	0.	0.	0.	3.04E-03
39 6.90 0.	4.84E-05		9.60E-12	0.	2.37E-05	0.	1.28E-10 5.09E-20	0.	0.	0.	3.04E-03
40 6.80 0.	4.36E-05		6.27E-12	0.	1.90E-05	0.	1.28E-10 5.32E-20	0.	0.	0.	3.04E-03
41 6.70 0.	4.93E-05		3.79E-12	0.	9.94E-05	0.	1.30E-10 5.56E-20	0.	0.	0.	3.04E-03
42 6.60 0.	4.70E-06		2.33E-12	0.	4.38E-05	0.	1.31E-10 5.81E-20	0.	0.	0.	3.04E-03
43 6.50 0.	4.36E-06		1.17E-12	0.	4.21E-05	0.	1.32E-10 6.09E-20	0.	0.	0.	3.04E-03
44 6.40 0.	4.80E-06		4.09E-13	3.37E-06	1.93E-04	0.	1.33E-10 6.38E-20	0.	0.	0.	3.04E-03
45 6.30 0.	4.41E-07		1.10E-13	1.02E-05	6.83E-05	0.	1.34E-10 6.69E-20	0.	0.	0.	3.04E-03
46 6.20 0.	4.1E-07		2.70E-14	1.05E-05	5.01E-05	0.	1.35E-10 7.02E-20	0.	0.	0.	3.04E-03
47 6.10 0.	4.44E-08		6.26E-15	2.23E-05	3.05E-04	0.	1.36E-10 7.37E-20	0.	0.	0.	3.04E-03
48 6.00 0.	4.27E-08		9.99E-16	1.10E-05	3.67E-05	0.	1.37E-10 7.74E-20	0.	0.	0.	3.04E-03
49 5.90 0.	4.29E-09		6.45E-17	1.45E-05	4.25E-05	0.	1.37E-10 8.15E-20	0.	0.	0.	3.04E-03
50 5.80 0.	5.90E-10		1.37E-18	1.64E-05	6.56E-05	0.	1.39E-10 8.58E-20	0.	0.	0.	3.04E-03
51 5.70 0.	5.52E-11		0.	1.28E-05	1.61E-05	0.	1.27E-10 9.04E-20	0.	0.	0.	3.04E-03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	VIS-RGT	NO	NO	C- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	1.38E-12	0.	5.15E-06	8.60E-05	0.	0.	1.10E-10	9.53E-20	0.	0.	0.	8.52E-05
53	5.90	0.	0.	8.59E-06	1.69E-04	0.	0.	1.10E-10	1.01E-19	0.	0.	0.	1.77E-04
54	5.40	0.	0.	5.65E-06	2.00E-05	0.	0.	1.10E-10	1.06E-19	0.	0.	0.	2.57E-05
55	5.30	0.	0.	5.45E-06	9.45E-05	0.	0.	1.20E-10	1.12E-19	0.	0.	0.	10.00E-05
56	5.20	0.	0.	4.68E-06	2.90E-05	0.	0.	1.21E-10	1.19E-19	0.	0.	0.	3.36E-05
57	5.10	0.	0.	3.52E-06	2.86E-05	0.	5.02E-09	1.22E-10	1.24E-19	0.	0.	0.	3.21E-05
58	5.00	0.10E-06	0.	2.29E-06	3.13E-05	0.	5.03E-09	1.23E-10	1.34E-19	0.	0.	0.	4.17E-05
59	4.90	1.33E-05	0.	2.09E-06	1.09E-05	0.	5.04E-09	1.24E-10	1.42E-19	0.	0.	0.	2.63E-05
60	4.80	1.64E-05	0.	2.17E-06	1.47E-05	0.	5.07E-09	1.25E-10	1.51E-19	0.	0.	0.	3.33E-05
61	4.70	1.48E-05	0.	1.64E-06	4.21E-06	0.	5.09E-09	1.26E-10	1.61E-19	0.	0.	0.	2.07E-05
62	4.60	1.41E-05	0.	1.40E-06	6.46E-06	0.	5.12E-09	1.27E-10	1.72E-19	0.	0.	0.	2.20E-05
63	4.50	1.07E-05	0.	9.18E-07	1.68E-06	0.	5.14E-09	1.28E-10	1.84E-19	0.	0.	0.	1.33E-05
64	4.40	8.09E-06	0.	7.39E-07	2.33E-06	0.	5.17E-09	1.29E-10	1.97E-19	0.	0.	0.	1.12E-05
65	4.30	5.95E-06	0.	5.21E-07	5.77E-07	0.	5.20E-09	1.30E-10	2.11E-19	0.	0.	0.	6.60E-06
66	4.20	3.07E-06	0.	4.29E-07	6.95E-07	0.	5.23E-09	1.31E-10	2.26E-19	0.	0.	0.	5.10E-06
67	4.10	2.05E-06	0.	2.93E-07	1.88E-07	0.	5.27E-09	1.32E-10	2.43E-19	0.	0.	0.	5.40E-06
68	4.00	1.08E-06	0.	2.24E-07	8.23E-08	0.	5.30E-09	1.32E-10	2.62E-19	0.	0.	0.	2.29E-06
69	3.90	1.15E-06	0.	1.30E-07	6.36E-08	0.	5.33E-09	1.32E-10	2.82E-19	0.	0.	0.	1.35E-06
70	3.80	1.09E-06	0.	1.24E-07	0.	0.	5.36E-09	1.31E-10	3.05E-19	0.	0.	0.	1.22E-06
71	3.70	5.19E-07	0.	7.13E-07	5.74E-08	0.	5.40E-09	1.29E-10	3.31E-19	0.	0.	0.	6.52E-07
72	3.60	4.07E-07	0.	5.23E-07	6.56E-08	0.	5.43E-09	1.21E-10	3.59E-19	0.	0.	0.	4.70E-07
73	3.50	2.15E-07	0.	2.80E-07	2.60E-08	0.	5.46E-09	1.11E-10	3.91E-19	0.	0.	0.	3.14E-07
74	3.40	1.70E-07	0.	2.49E-07	2.93E-08	0.	5.49E-09	6.39E-11	4.26E-19	0.	0.	0.	2.05E-07
75	3.30	1.09E-07	0.	7.31E-07	1.24E-08	0.	5.49E-09	6.40E-11	4.66E-19	0.	0.	0.	1.27E-07
76	3.20	6.41E-08	0.	9.56E-07	6.81E-08	0.	5.48E-09	6.41E-11	5.11E-19	0.	0.	0.	8.15E-08
77	3.10	4.28E-08	0.	1.51E-07	6.40E-08	0.	5.45E-09	6.42E-11	5.62E-19	0.	0.	0.	5.40E-08
78	3.00	2.62E-08	0.	2.66E-07	4.49E-09	0.	5.40E-09	6.44E-11	6.20E-19	0.	0.	0.	3.62E-08
79	2.90	1.45E-08	0.	2.37E-07	6.68E-07	0.	5.35E-09	6.45E-11	6.83E-19	0.	0.	0.	2.17E-08
80	2.80	1.12E-08	0.	5.00E-07	1.01E-08	0.	5.24E-09	6.46E-11	7.63E-19	0.	0.	0.	1.71E-08
81	2.70	3.95E-09	0.	3.20E-07	1.22E-08	0.	5.11E-09	6.46E-11	8.50E-19	0.	0.	0.	9.25E-09
82	2.60	8.33E-10	0.	9.60E-07	2.87E-08	0.	4.96E-09	6.46E-11	9.52E-19	0.	0.	0.	5.89E-09
83	2.50	4.05E-11	0.	2.66E-07	2.01E-09	0.	4.77E-09	6.46E-11	1.07E-18	0.	0.	0.	4.87E-09
84	2.40	0.	7.89E-15	9.20E-19	2.00E-13	0.	4.58E-09	6.46E-11	1.21E-18	0.	0.	0.	4.64E-09
85	2.30	0.	2.46E-13	0.	0.	0.	4.27E-09	6.41E-11	1.38E-18	0.	0.	0.	4.33E-09
86	2.20	0.	2.35E-13	0.	0.	0.	3.95E-09	6.38E-11	1.57E-18	0.	0.	0.	4.01E-09
87	2.10	0.	1.50E-12	0.	0.	0.	3.56E-09	6.30E-11	1.81E-18	0.	0.	0.	3.63E-09
88	2.00	0.	1.13E-12	0.	0.	0.	3.00E-09	6.19E-11	2.09E-18	0.	0.	0.	3.07E-09
89	1.90	0.	1.03E-11	0.	0.	0.	2.53E-09	5.92E-11	2.44E-18	0.	0.	0.	2.60E-09
90	1.80	0.	1.89E-11	0.	0.	0.	1.84E-09	5.66E-11	2.87E-18	0.	0.	0.	1.92E-09
91	1.70	0.	1.15E-11	0.	0.	0.	1.28E-09	5.33E-11	3.41E-18	0.	0.	0.	1.34E-09
92	1.60	0.	1.30E-11	0.	0.	0.	8.63E-10	4.91E-11	4.09E-18	0.	0.	0.	9.21E-10
93	1.50	0.	9.80E-12	0.	0.	0.	4.97E-10	3.09E-11	4.97E-18	0.	0.	0.	5.27E-10
94	1.40	0.	2.45E-11	0.	0.	0.	2.65E-10	0.	6.11E-18	0.	0.	0.	2.89E-10
95	1.30	0.	7.42E-12	0.	0.	0.	1.05E-10	0.	7.63E-18	0.	0.	0.	1.13E-10
96	1.20	0.	1.99E-11	0.	0.	0.	0.	0.	9.71E-18	0.	0.	0.	1.99E-11
97	1.10	0.	5.57E-12	0.	0.	0.	5.09E-10	0.	1.26E-17	0.	0.	0.	9.15E-10
98	1.00	0.	6.90E-12	0.	0.	0.	4.95E-10	0.	1.60E-17	0.	0.	0.	3.04E-10
99	0.90	0.	3.85E-12	0.	0.	0.	3.84E-09	0.	2.31E-17	0.	0.	0.	3.84E-09
100	0.80	0.	1.69E-12	0.	0.	0.	5.92E-09	0.	3.29E-17	0.	0.	0.	5.92E-09
101	0.70	0.	1.48E-13	0.	0.	0.	1.90E-09	0.	4.93E-17	0.	0.	0.	1.90E-09
102	0.60	0.	1.66E-16	0.	0.	0.	2.00E-06	0.	7.84E-17	0.	0.	0.	2.00E-06

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS		TEMPERATURE (DEGREES K)		3000.		DENSITY (GM/CC)		1.295E-07		(10.0E-05 NORMAL)		TOTAL AIR											
1ST POS.		2ND POS.		1ST NEG.		BETA		NO		GAMMA		VIB-ROT		NO		PHOTO-BET (IONS)		FREE-FREE		N		P.E.	
N2		N2		N2+		NO		NO		NO		NO		NO		O-		O-		O-		O	
52		5.60		2.80E-14		0.		0.		2.33E-07		3.62E-06		0.		3.39E-12		4.32E-21		0.		0.	
53		5.50		0.		0.		0.		3.89E-07		7.64E-06		0.		3.61E-12		4.56E-21		0.		0.	
54		5.40		0.		0.		0.		2.56E-07		9.08E-07		0.		3.63E-12		4.82E-21		0.		3.	
55		5.30		0.		0.		0.		2.47E-07		4.28E-06		0.		3.63E-12		5.10E-21		0.		0.	
56		5.20		0.		0.		0.		2.12E-07		1.31E-06		0.		3.67E-12		5.40E-21		0.		0.	
57		5.10		0.		0.		0.		1.60E-07		1.30E-06		0.		3.70E-12		5.72E-21		0.		0.	
58		5.00		1.65E-07		0.		0.		1.04E-07		1.42E-06		0.		3.74E-12		6.07E-21		0.		0.	
59		4.90		2.69E-07		0.		0.		9.46E-08		4.93E-07		0.		3.77E-12		6.45E-21		0.		0.	
60		4.80		3.33E-07		0.		0.		9.82E-08		6.65E-07		0.		3.27E-11		7.31E-21		0.		0.	
61		4.70		3.02E-07		0.		0.		6.33E-08		1.91E-07		0.		3.29E-11		7.80E-21		0.		0.	
62		4.60		2.87E-07		0.		0.		4.16E-08		2.93E-07		0.		3.30E-11		8.39E-21		0.		0.	
63		4.50		2.17E-07		0.		0.		4.39E-16		7.60E-08		0.		3.32E-11		8.39E-21		0.		0.	
64		4.40		1.64E-07		0.		0.		4.86E-15		1.05E-07		0.		3.34E-11		8.91E-21		0.		0.	
65		4.30		1.13E-07		0.		0.		2.36E-15		2.61E-08		0.		3.36E-11		9.59E-21		0.		0.	
66		4.20		8.07E-08		0.		0.		4.05E-14		3.15E-08		0.		3.38E-11		1.02E-20		0.		0.	
67		4.10		6.00E-08		0.		0.		1.80E-15		8.50E-09		0.		3.40E-11		1.10E-20		0.		0.	
68		4.00		4.02E-08		0.		0.		4.82E-14		3.73E-09		0.		3.42E-11		1.10E-20		0.		0.	
69		3.90		2.34E-08		0.		0.		3.65E-14		2.80E-09		0.		3.44E-11		1.20E-20		0.		0.	
70		3.80		2.21E-08		0.		0.		1.29E-14		5.81E-09		0.		3.46E-11		1.30E-20		0.		0.	
71		3.70		2.20E-08		0.		0.		7.20E-14		6.01E-18		0.		3.48E-11		1.50E-20		0.		0.	
72		3.60		8.26E-09		0.		0.		3.28E-15		2.97E-09		0.		3.50E-11		1.63E-20		0.		0.	
73		3.50		5.75E-09		0.		0.		2.91E-14		1.44E-16		0.		3.52E-11		1.77E-20		0.		0.	
74		3.40		3.45E-09		0.		0.		2.52E-15		2.04E-19		0.		3.54E-11		1.93E-20		0.		0.	
75		3.30		2.21E-09		0.		0.		7.37E-15		5.34E-10		0.		3.56E-11		2.32E-20		0.		0.	
76		3.20		1.30E-09		0.		0.		9.64E-16		2.28E-16		0.		3.58E-11		2.32E-20		0.		0.	
77		3.10		8.69E-10		0.		0.		1.53E-15		2.94E-10		0.		3.60E-11		2.55E-20		0.		0.	
78		3.00		5.33E-10		0.		0.		2.69E-16		1.32E-17		0.		3.62E-11		2.81E-20		0.		0.	
79		2.90		2.96E-10		0.		0.		2.40E-16		3.16E-17		0.		3.64E-11		3.11E-20		0.		0.	
80		2.80		2.29E-10		0.		0.		5.95E-17		4.80E-19		0.		3.66E-11		3.40E-20		0.		0.	
81		2.70		8.03E-11		0.		0.		3.23E-17		6.03E-18		0.		3.68E-11		3.89E-20		0.		0.	
82		2.60		1.63E-11		0.		0.		9.77E-18		1.34E-18		0.		3.70E-11		4.32E-20		0.		0.	
83		2.50		8.22E-13		0.		0.		2.69E-18		1.39E-13		0.		3.72E-11		4.66E-20		0.		0.	
84		2.40		0.		0.		0.		7.96E-16		4.36E-19		0.		3.74E-11		5.49E-20		0.		0.	
85		2.30		0.		0.		0.		2.48E-14		0.		0.		3.76E-11		6.24E-20		0.		0.	
86		2.20		0.		0.		0.		2.35E-14		0.		0.									

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	02 S-M NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DEY (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.		0.	2.74E-07	0.	0.	0.	6.71E-14 0.	0.	0.	0.	2.74E-07
2 10.60 0.		0.	1.74E-07	0.	0.	0.	6.72E-14 0.	0.	0.	0.	1.74E-07
3 10.50 0.		0.	1.36E-07	0.	0.	0.	6.73E-14 0.	0.	0.	0.	1.36E-07
4 10.40 0.		0.	9.83E-08	0.	0.	0.	6.74E-14 0.	0.	0.	0.	9.83E-08
5 10.30 0.		0.	5.87E-08	0.	0.	0.	6.75E-14 0.	0.	0.	0.	5.87E-08
6 10.20 0.		0.	4.77E-08	0.	0.	0.	6.75E-14 0.	0.	0.	0.	4.77E-08
7 10.10 0.		0.	3.57E-08	0.	0.	0.	6.76E-14 0.	0.	0.	0.	3.57E-08
8 10.00 0.		0.	1.67E-08	0.	0.	0.	6.77E-14 0.	0.	0.	0.	1.67E-08
9 9.90 0.		0.	1.76E-08	0.	0.	0.	6.78E-14 0.	0.	0.	0.	1.76E-08
10 9.80 0.		0.	1.17E-08	0.	0.	0.	6.80E-14 0.	0.	0.	0.	1.17E-08
11 9.70 0.		0.	6.15E-09	0.	0.	0.	6.81E-14 0.	0.	0.	0.	6.15E-09
12 9.60 0.		0.	6.64E-09	0.	0.	0.	6.82E-14 0.	0.	0.	0.	6.64E-09
13 9.50 0.		2.23E-07	3.25E-09	0.	0.	0.	6.83E-14 0.	0.	0.	0.	2.27E-07
14 9.40 0.		0.27E-07	2.33E-09	0.	0.	0.	6.86E-14 0.	0.	0.	0.	0.29E-07
15 9.30 0.		1.43E-06	2.10E-09	0.	0.	0.	6.86E-14 0.	0.	0.	0.	1.43E-06
16 9.20 0.		2.03E-06	8.42E-10	0.	0.	0.	6.91E-14 0.	0.	0.	0.	2.03E-06
17 9.10 0.		2.61E-06	3.02E-09	0.	0.	0.	6.93E-14 0.	0.	0.	0.	2.61E-06
18 9.00 0.		3.18E-06	5.17E-10	0.	0.	0.	6.93E-14 0.	0.	0.	0.	3.18E-06
19 8.90 0.		3.75E-06	3.59E-10	0.	0.	0.	6.98E-14 0.	0.	0.	0.	3.75E-06
20 8.80 0.		3.96E-06	2.68E-10	0.	0.	0.	7.01E-14 0.	0.	0.	0.	3.96E-06
21 8.70 0.		3.73E-06	1.30E-10	0.	0.	0.	7.02E-14 0.	0.	0.	0.	3.73E-06
22 8.60 0.		3.53E-06	1.45E-10	0.	0.	0.	7.06E-14 0.	0.	0.	0.	3.53E-06
23 8.50 0.		3.35E-06	6.72E-11	0.	0.	0.	7.06E-14 0.	0.	0.	0.	3.35E-06
24 8.40 0.		3.18E-06	6.27E-11	0.	0.	0.	7.12E-14 0.	0.	0.	0.	3.18E-06
25 8.30 0.		3.03E-06	3.05E-11	0.	0.	0.	7.16E-14 0.	0.	0.	0.	3.03E-06
26 8.20 0.		2.81E-06	2.62E-11	0.	0.	0.	7.19E-14 0.	0.	0.	0.	2.81E-06
27 8.10 0.		2.61E-06	1.41E-11	0.	0.	0.	7.23E-14 4.87E-23	0.	0.	0.	2.61E-06
28 8.00 0.		2.42E-06	1.14E-11	0.	0.	0.	7.23E-14 5.03E-23	0.	0.	0.	2.42E-06
29 7.90 0.		2.23E-06	6.29E-12	0.	0.	0.	7.31E-14 5.25E-23	0.	0.	0.	2.23E-06
30 7.80 0.		2.05E-06	5.20E-12	0.	0.	0.	7.34E-14 5.45E-23	0.	0.	0.	2.05E-06
31 7.70 0.		1.87E-06	3.02E-12	0.	0.	0.	7.38E-14 5.67E-23	0.	0.	0.	1.87E-06
32 7.60 0.		1.68E-06	2.10E-12	0.	3.01E-12	0.	7.42E-14 5.89E-23	0.	0.	0.	1.68E-06
33 7.50 0.		1.49E-06	1.33E-12	0.	1.15E-10	0.	7.46E-14 6.13E-23	0.	0.	0.	1.49E-06
34 7.40 0.		1.33E-06	8.60E-13	0.	2.91E-10	0.	7.50E-14 6.39E-23	0.	0.	0.	1.33E-06
35 7.30 0.		1.10E-06	5.65E-13	0.	8.07E-10	0.	7.54E-14 6.65E-23	0.	0.	0.	1.10E-06
36 7.20 0.		1.03E-06	3.54E-13	0.	8.84E-09	0.	7.58E-14 6.94E-23	0.	0.	0.	1.04E-06
37 7.10 0.		8.72E-07	2.40E-13	0.	2.13E-09	0.	7.64E-14 7.24E-23	0.	0.	0.	8.74E-07
38 7.00 0.	7.19E-09	0.	1.51E-13	0.	3.01E-08	0.	7.70E-14 7.55E-23	0.	0.	0.	4.55E-08
39 6.90 0.	1.15E-08	0.	9.74E-14	0.	3.67E-08	0.	7.77E-14 7.89E-23	0.	0.	0.	4.82E-08
40 6.80 0.	7.96E-09	0.	6.38E-14	0.	2.95E-08	0.	7.83E-14 8.24E-23	0.	0.	0.	3.75E-08
41 6.70 0.	4.57E-09	0.	3.85E-14	0.	1.54E-07	0.	7.89E-14 8.61E-23	0.	0.	0.	1.59E-07
42 6.60 0.	2.30E-09	0.	2.36E-14	0.	6.80E-08	0.	7.95E-14 9.01E-23	0.	0.	0.	7.03E-08
43 6.50 0.	1.03E-09	0.	1.19E-14	0.	6.52E-08	0.	8.02E-14 9.43E-23	0.	0.	0.	6.63E-08
44 6.40 0.	4.26E-10	0.	4.14E-15	0.	5.22E-09	0.	8.08E-14 9.88E-23	0.	0.	0.	3.05E-07
45 6.30 0.	1.75E-10	0.	1.12E-15	0.	1.50E-08	0.	8.14E-14 1.04E-22	0.	0.	0.	1.22E-07
46 6.20 0.	5.71E-11	0.	2.74E-16	0.	1.62E-08	0.	8.20E-14 1.09E-22	0.	0.	0.	9.40E-08
47 6.10 0.	1.76E-11	0.	6.35E-17	0.	3.46E-08	0.	8.26E-14 1.14E-22	0.	0.	0.	5.07E-07
48 6.00 0.	5.38E-12	0.	1.01E-17	0.	1.70E-08	0.	8.33E-14 1.20E-22	0.	0.	0.	7.30E-08
49 5.90 0.	1.02E-12	0.	6.54E-19	0.	2.25E-08	0.	8.39E-14 1.26E-22	0.	0.	0.	8.85E-08
50 5.80 0.	1.16E-13	0.	1.39E-20	0.	2.54E-08	0.	8.46E-14 1.33E-22	0.	0.	0.	1.27E-07
51 5.70 0.	8.33E-15	0.	0.	0.	1.98E-08	0.	7.70E-14 1.40E-22	0.	0.	0.	4.46E-08

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL.)

PHOTON 02 S-R ENERGY HARDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52	5.60	3.27E-16	0.	0.	7.99E-09	1.24E-07	0.	7.16E-14	1.48E-22	0.	0.	1.32E-07
53	5.50	0.	0.	0.	1.33E-08	2.61E-07	0.	7.20E-14	1.56E-22	0.	0.	2.75E-07
54	5.40	0.	0.	0.	0.76E-09	3.11E-08	0.	7.24E-14	1.65E-22	0.	0.	3.90E-08
55	5.30	0.	0.	0.	0.44E-09	1.46E-07	0.	7.28E-14	1.74E-22	0.	0.	1.55E-07
56	5.20	0.	0.	0.	7.25E-09	4.49E-08	0.	7.33E-14	1.85E-22	0.	0.	5.21E-08
57	5.10	0.	0.	0.	5.46E-09	4.43E-08	0.	7.39E-14	1.96E-22	0.	0.	4.90E-08
58	5.00	1.42E-09	0.	0.	3.55E-09	4.86E-08	0.	7.46E-14	2.08E-22	0.	0.	5.40E-08
59	4.90	3.14E-09	0.	0.	3.24E-09	1.69E-08	0.	7.52E-14	2.21E-22	0.	0.	2.33E-08
60	4.80	3.49E-09	0.	0.	3.36E-09	2.28E-08	0.	7.59E-14	2.35E-22	0.	0.	3.00E-08
61	4.70	3.52E-09	0.	0.	2.54E-09	6.53E-09	0.	7.64E-14	2.50E-22	0.	0.	1.26E-08
62	4.60	3.15E-09	0.	0.	2.17E-09	1.00E-08	0.	7.70E-14	2.67E-22	0.	0.	1.55E-08
63	4.50	2.54E-09	0.	0.	1.42E-09	2.68E-09	0.	7.77E-14	2.85E-22	0.	0.	6.56E-09
64	4.40	1.42E-09	0.	0.	1.15E-09	3.61E-09	0.	7.83E-14	3.05E-22	0.	0.	6.67E-09
65	4.30	1.32E-09	0.	0.	0.07E-10	8.94E-10	0.	7.89E-14	3.26E-22	0.	0.	3.02E-09
66	4.20	9.40E-10	0.	0.	6.66E-10	1.08E-09	0.	7.95E-14	3.50E-22	0.	0.	2.68E-09
67	4.10	7.00E-10	0.	0.	4.55E-10	2.91E-10	0.	8.02E-14	3.76E-22	0.	0.	1.45E-09
68	4.00	4.69E-10	0.	0.	3.48E-10	1.20E-10	0.	8.08E-14	4.05E-22	0.	0.	9.45E-10
69	3.90	2.72E-10	0.	0.	2.01E-10	9.85E-11	0.	8.15E-14	4.38E-22	0.	0.	5.72E-10
70	3.80	2.58E-10	0.	0.	1.99E-10	0.	0.	8.22E-14	4.73E-22	0.	0.	4.57E-10
71	3.70	1.40E-10	0.	0.	1.24E-10	8.90E-11	0.	8.30E-14	5.12E-22	0.	0.	2.29E-10
72	3.60	9.63E-11	0.	0.	5.30E-10	2.74E-10	0.	8.38E-14	5.56E-22	0.	0.	1.98E-10
73	3.50	6.70E-11	0.	0.	2.92E-10	7.81E-10	0.	8.46E-14	6.05E-22	0.	0.	1.07E-10
74	3.40	4.03E-11	0.	0.	2.53E-10	1.11E-10	0.	8.54E-14	6.60E-22	0.	0.	8.59E-11
75	3.30	2.58E-11	0.	0.	2.41E-10	4.55E-11	0.	8.62E-14	7.22E-22	0.	0.	4.51E-11
76	3.20	1.52E-11	0.	0.	9.69E-10	6.55E-10	0.	8.70E-14	7.92E-22	0.	0.	3.36E-11
77	3.10	1.01E-11	0.	0.	1.54E-10	2.20E-10	0.	8.78E-14	8.71E-22	0.	0.	2.03E-11
78	3.00	6.22E-12	0.	0.	2.70E-10	7.15E-10	0.	8.86E-14	9.61E-22	0.	0.	1.33E-11
79	2.90	3.45E-12	0.	0.	2.41E-10	1.72E-10	0.	8.94E-14	1.06E-21	0.	0.	6.31E-12
80	2.80	2.68E-12	0.	0.	5.07E-10	2.61E-10	0.	9.02E-14	1.18E-21	0.	0.	3.74E-12
81	2.70	9.51E-13	0.	0.	3.25E-10	3.29E-10	0.	9.10E-14	1.32E-21	0.	0.	1.29E-12
82	2.60	1.91E-13	0.	0.	9.82E-10	7.40E-10	0.	9.18E-14	1.48E-21	0.	0.	3.90E-13
83	2.50	9.51E-15	0.	0.	2.70E-10	5.17E-10	0.	9.26E-14	1.66E-21	0.	0.	1.67E-13
84	2.40	0.	0.	0.	8.09E-10	2.37E-10	0.	9.34E-14	1.86E-21	0.	0.	1.49E-13
85	2.30	0.	0.	0.	2.36E-10	0.	0.	9.42E-14	2.08E-21	0.	0.	1.43E-13
86	2.20	0.	0.	0.	1.52E-10	0.	0.	9.50E-14	2.33E-21	0.	0.	1.35E-13
87	2.10	0.	0.	0.	1.32E-10	0.	0.	9.58E-14	2.60E-21	0.	0.	1.30E-13
88	2.00	0.	0.	0.	1.13E-10	0.	0.	9.66E-14	2.89E-21	0.	0.	1.20E-13
89	1.90	0.	0.	0.	1.04E-10	0.	0.	9.74E-14	3.25E-21	0.	0.	2.00E-13
90	1.80	0.	0.	0.	9.22E-11	0.	0.	9.82E-14	3.70E-21	0.	0.	2.70E-13
91	1.70	0.	0.	0.	8.17E-11	0.	0.	9.90E-14	4.25E-21	0.	0.	1.80E-13
92	1.60	0.	0.	0.	7.32E-11	0.	0.	9.98E-14	4.93E-21	0.	0.	1.80E-13
93	1.50	0.	0.	0.	6.64E-11	0.	0.	1.00E-14	5.76E-21	0.	0.	1.24E-13
94	1.40	0.	0.	0.	6.18E-11	0.	0.	1.01E-15	6.77E-21	0.	0.	1.24E-13
95	1.30	0.	0.	0.	5.92E-11	0.	0.	1.02E-15	7.97E-21	0.	0.	2.55E-13
96	1.20	0.	0.	0.	5.82E-11	0.	0.	1.03E-15	9.47E-21	0.	0.	7.77E-14
97	1.10	0.	0.	0.	5.85E-11	0.	0.	1.04E-15	1.10E-20	0.	0.	2.02E-13
98	1.00	0.	0.	0.	5.93E-11	0.	0.	1.05E-15	1.29E-20	0.	0.	8.46E-13
99	0.90	0.	0.	0.	6.03E-11	0.	0.	1.06E-15	1.50E-20	0.	0.	8.50E-13
100	0.80	0.	0.	0.	6.14E-11	0.	0.	1.07E-15	1.75E-20	0.	0.	5.99E-12
101	0.70	0.	0.	0.	6.25E-11	0.	0.	1.08E-15	2.05E-20	0.	0.	9.20E-12
102	0.60	0.	0.	0.	6.36E-11	0.	0.	1.09E-15	2.40E-20	0.	0.	2.94E-11
												3.10E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-00 ( 1.0E-06 NORMAL)

PHOTON ENERGY E.V.	2 S-R BANDS	02 S-R CONT.	N2 B-W NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE (IONS)	M P.E.	0 P.E.	TOTAL AIR
1	10.70 0.	0.	2.74E-08	0.	0.	0.	1.22E-15 0.	0.	0.	0.	2.74E-08
2	10.60 0.	0.	1.74E-08	0.	0.	0.	1.22E-15 0.	0.	0.	0.	1.74E-08
3	10.50 0.	0.	1.36E-08	0.	0.	0.	1.22E-15 0.	0.	0.	0.	1.36E-08
4	10.40 0.	0.	9.03E-09	0.	0.	0.	1.22E-15 0.	0.	0.	0.	9.03E-09
5	10.30 0.	0.	5.87E-09	0.	0.	0.	1.22E-15 0.	0.	0.	0.	5.87E-09
6	10.20 0.	0.	4.77E-09	0.	0.	0.	1.22E-15 0.	0.	0.	0.	4.77E-09
7	10.10 0.	0.	3.50E-09	0.	0.	0.	1.22E-15 0.	0.	0.	0.	3.50E-09
8	10.00 0.	0.	1.87E-09	0.	0.	0.	1.22E-15 0.	0.	0.	0.	1.87E-09
9	9.90 0.	0.	1.76E-09	0.	0.	0.	1.22E-15 0.	0.	0.	0.	1.76E-09
10	9.80 0.	0.	1.17E-09	0.	0.	0.	1.22E-15 0.	0.	0.	0.	1.17E-09
11	9.70 0.	0.	6.15E-10	0.	0.	0.	1.22E-15 0.	0.	0.	0.	6.15E-10
12	9.60 0.	0.	6.65E-10	0.	0.	0.	1.24E-15 0.	0.	0.	0.	6.65E-10
13	9.50 0.	2.29E-09	3.25E-10	0.	0.	0.	1.24E-15 0.	0.	0.	0.	2.62E-09
14	9.40 0.	6.49E-09	2.33E-10	0.	0.	0.	1.24E-15 0.	0.	0.	0.	6.72E-09
15	9.30 0.	1.47E-08	2.10E-10	0.	0.	0.	1.29E-15 0.	0.	0.	0.	1.49E-08
16	9.20 0.	2.09E-08	8.42E-11	0.	0.	0.	1.29E-15 0.	0.	0.	0.	2.10E-08
17	9.10 0.	2.68E-08	1.02E-10	0.	0.	0.	1.26E-15 0.	0.	0.	0.	2.69E-08
18	9.00 0.	3.26E-08	5.17E-11	0.	0.	0.	1.26E-15 0.	0.	0.	0.	3.27E-08
19	8.90 0.	3.65E-08	3.59E-11	0.	0.	0.	1.27E-15 0.	0.	0.	0.	3.65E-08
20	8.80 0.	4.00E-08	2.86E-11	0.	0.	0.	1.27E-15 0.	0.	0.	0.	4.00E-08
21	8.70 0.	3.31E-08	1.38E-11	0.	0.	0.	1.28E-15 0.	0.	0.	0.	3.82E-08
22	8.60 0.	3.63E-08	1.45E-11	0.	0.	0.	1.28E-15 0.	0.	0.	0.	3.63E-08
23	8.50 0.	3.44E-08	6.72E-12	0.	0.	0.	1.28E-15 0.	0.	0.	0.	3.44E-08
24	8.40 0.	3.25E-08	6.27E-12	0.	0.	0.	1.29E-15 0.	0.	0.	0.	3.25E-08
25	8.30 0.	3.08E-08	3.05E-12	0.	0.	0.	1.30E-15 0.	0.	0.	0.	3.08E-08
26	8.20 0.	2.88E-08	2.62E-12	0.	0.	0.	1.30E-15 0.	0.	0.	0.	2.89E-08
27	8.10 0.	2.68E-08	1.41E-12	0.	0.	0.	1.31E-15 1.56E-24	0.	0.	0.	2.68E-08
28	8.00 0.	2.48E-08	1.14E-12	0.	0.	0.	1.32E-15 1.62E-24	0.	0.	0.	2.48E-08
29	7.90 0.	2.28E-08	6.29E-13	0.	0.	0.	1.33E-15 1.68E-24	0.	0.	0.	2.29E-08
30	7.80 0.	2.11E-08	5.20E-13	0.	0.	0.	1.33E-15 1.75E-24	0.	0.	0.	2.11E-08
31	7.70 0.	1.92E-08	3.02E-13	0.	0.	0.	1.34E-15 1.82E-24	0.	0.	0.	1.92E-08
32	7.60 0.	1.73E-08	2.10E-13	0.	6.44E-14	0.	1.35E-15 1.89E-24	0.	0.	0.	1.73E-08
33	7.50 0.	1.53E-08	1.33E-13	0.	3.67E-12	0.	1.35E-15 1.97E-24	0.	0.	0.	1.53E-08
34	7.40 0.	1.37E-08	8.60E-14	0.	9.32E-12	0.	1.36E-15 2.05E-24	0.	0.	0.	1.37E-08
35	7.30 0.	1.22E-08	5.65E-14	0.	2.59E-11	0.	1.37E-15 2.13E-24	0.	0.	0.	1.22E-08
36	7.20 0.	1.06E-08	3.54E-14	0.	2.84E-10	0.	1.37E-15 2.22E-24	0.	0.	0.	1.06E-08
37	7.10 0.	8.95E-09	2.40E-14	0.	6.02E-11	0.	1.39E-15 2.32E-24	0.	0.	0.	9.02E-09
38	7.00 7.18E-11 0.	0.	1.51E-14	0.	1.23E-09	0.	1.40E-15 2.42E-24	0.	0.	0.	1.30E-09
39	6.90 1.10E-10 0.	0.	9.74E-15	0.	1.10E-09	0.	1.41E-15 2.53E-24	0.	0.	0.	1.29E-09
40	6.80 8.17E-11 0.	0.	6.36E-15	0.	9.46E-10	0.	1.42E-15 2.64E-24	0.	0.	0.	1.03E-09
41	6.70 4.19E-11 0.	0.	3.85E-15	0.	4.94E-09	0.	1.43E-15 2.76E-24	0.	0.	0.	4.99E-09
42	6.60 2.16E-11 0.	0.	2.36E-15	0.	2.10E-09	0.	1.44E-15 2.89E-24	0.	0.	0.	2.20E-09
43	6.50 1.06E-11 0.	0.	1.19E-15	0.	2.09E-09	0.	1.45E-15 3.02E-24	0.	0.	0.	2.10E-09
44	6.40 4.17E-12 0.	0.	4.15E-16	1.67E-10	9.61E-09	0.	1.46E-15 3.17E-24	0.	0.	0.	9.70E-09
45	6.30 1.10E-12 0.	0.	1.12E-16	5.06E-10	3.49E-09	0.	1.46E-15 3.32E-24	0.	0.	0.	3.91E-09
46	6.20 5.16E-13 0.	0.	2.74E-17	5.21E-10	2.49E-09	0.	1.49E-15 3.49E-24	0.	0.	0.	3.01E-09
47	6.10 1.11E-13 0.	0.	6.35E-18	1.11E-09	1.51E-08	0.	1.50E-15 3.66E-24	0.	0.	0.	1.63E-08
48	6.00 5.12E-14 0.	0.	1.01E-18	5.44E-10	1.02E-09	0.	1.51E-15 3.85E-24	0.	0.	0.	2.37E-09
49	5.90 1.14E-14 0.	0.	6.54E-20	7.23E-10	3.11E-09	0.	1.51E-15 4.05E-24	0.	0.	0.	2.04E-09
50	5.80 1.17E-15 0.	0.	1.39E-21	6.16E-10	3.26E-09	0.	1.49E-15 4.26E-24	0.	0.	0.	4.00E-09
51	5.70 8.15E-17 0.	0.	0.	6.34E-10	7.98E-10	0.	1.40E-15 4.49E-24	0.	0.	0.	1.43E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)														
PHOTON O2 S-R	N2	N2	N2+	BETA	GAMMA	VIB-ROT	NO	2	PHOTO-DET (IONS)	FREE-FREE	N	P.E.	0	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.											
52	5.60	3.34E-10	0.	2.56E-10	3.98E-09	0.	0.	0.	1.30E-15	4.74E-24	0.	0.	0.	4.23E-09
53	5.50	0.	0.	4.27E-10	8.30E-09	0.	0.	0.	1.31E-15	5.00E-24	0.	0.	0.	8.80E-09
54	5.40	0.	0.	2.81E-10	9.96E-10	0.	0.	0.	1.31E-15	5.20E-24	0.	0.	0.	1.20E-09
55	5.30	0.	0.	2.71E-10	4.70E-09	0.	0.	0.	1.32E-15	5.59E-24	0.	0.	0.	4.97E-09
56	5.20	0.	0.	2.32E-10	1.44E-09	0.	0.	0.	1.33E-15	5.92E-24	0.	0.	0.	1.67E-09
57	5.10	0.	0.	1.75E-10	1.42E-09	0.	0.	0.	1.34E-15	6.27E-24	0.	0.	0.	1.60E-09
58	5.00	1.07E-11	0.	1.14E-10	1.56E-09	0.	0.	0.	1.35E-15	6.66E-24	0.	0.	0.	1.69E-09
59	4.90	3.22E-11	0.	1.04E-10	5.43E-10	0.	0.	0.	1.36E-15	7.07E-24	0.	0.	0.	6.79E-10
60	4.80	3.99E-11	0.	1.08E-10	7.38E-10	0.	0.	0.	1.37E-15	7.52E-24	0.	0.	0.	8.77E-10
61	4.70	3.61E-11	0.	8.14E-11	2.09E-10	0.	0.	0.	1.39E-15	8.01E-24	0.	0.	0.	3.27E-10
62	4.60	3.44E-11	0.	6.95E-11	3.21E-10	0.	0.	0.	1.40E-15	8.55E-24	0.	0.	0.	4.25E-10
63	4.50	2.60E-11	0.	4.56E-11	8.34E-11	0.	0.	0.	1.41E-15	9.13E-24	0.	0.	0.	1.55E-10
64	4.40	1.97E-11	0.	3.67E-11	1.16E-10	0.	0.	0.	1.42E-15	9.77E-24	0.	0.	0.	1.72E-10
65	4.30	1.35E-11	0.	2.59E-11	2.87E-11	0.	0.	0.	1.43E-15	1.05E-23	0.	0.	0.	6.80E-11
66	4.20	9.65E-12	0.	2.13E-11	3.45E-11	0.	0.	0.	1.44E-15	1.12E-23	0.	0.	0.	6.55E-11
67	4.10	7.10E-12	0.	1.81E-11	9.32E-12	0.	0.	0.	1.45E-15	1.21E-23	0.	0.	0.	3.11E-11
68	4.00	4.81E-12	0.	1.12E-11	4.09E-12	0.	0.	0.	1.46E-15	1.30E-23	0.	0.	0.	2.01E-11
69	3.90	2.80E-12	0.	6.44E-12	3.16E-12	0.	0.	0.	1.45E-15	1.40E-23	0.	0.	0.	1.24E-11
70	3.80	2.64E-12	0.	6.37E-12	0.	0.	0.	0.	1.44E-15	1.52E-23	0.	0.	0.	9.02E-12
71	3.70	1.43E-12	0.	7.24E-16	2.83E-12	0.	0.	0.	1.42E-15	1.64E-23	0.	0.	0.	4.29E-12
72	3.60	9.89E-13	0.	5.30E-17	1.53E-18	0.	0.	0.	1.33E-15	1.70E-23	0.	0.	0.	4.25E-12
73	3.50	6.80E-13	0.	2.92E-17	1.29E-12	0.	0.	0.	1.22E-15	1.94E-23	0.	0.	0.	1.90E-12
74	3.40	4.13E-13	0.	2.53E-17	6.10E-20	0.	0.	0.	7.02E-16	2.12E-23	0.	0.	0.	1.87E-12
75	3.30	2.64E-13	0.	7.41E-17	3.46E-18	0.	0.	0.	7.03E-16	2.32E-23	0.	0.	0.	8.80E-13
76	3.20	1.56E-13	0.	9.69E-18	6.91E-17	0.	0.	0.	7.04E-16	2.54E-23	0.	0.	0.	7.42E-13
77	3.10	1.04E-13	0.	1.54E-17	1.23E-19	0.	0.	0.	7.06E-16	2.79E-23	0.	0.	0.	4.27E-13
78	3.00	6.38E-14	0.	2.70E-18	4.00E-18	0.	0.	0.	7.06E-16	3.08E-23	0.	0.	0.	2.80E-13
79	2.90	3.54E-14	0.	2.41E-18	9.60E-18	0.	0.	0.	7.09E-16	3.41E-23	0.	0.	0.	1.23E-13
80	2.80	2.73E-14	0.	5.08E-19	1.46E-19	0.	0.	0.	7.10E-16	3.79E-23	0.	0.	0.	5.74E-14
81	2.70	9.61E-15	0.	3.25E-19	6.06E-15	0.	0.	0.	7.10E-16	4.22E-23	0.	0.	0.	1.68E-14
82	2.60	2.03E-15	0.	9.82E-20	4.13E-19	0.	0.	0.	7.10E-16	4.73E-23	0.	0.	0.	4.24E-15
83	2.50	9.84E-17	0.	2.70E-20	2.89E-20	0.	0.	0.	7.10E-16	5.32E-23	0.	0.	0.	1.33E-15
84	2.40	0.	8.00E-18	1.32E-19	1.04E-17	0.	0.	0.	7.10E-16	6.02E-23	0.	0.	0.	1.00E-15
85	2.30	0.	2.50E-16	0.	0.	0.	0.	0.	7.04E-16	6.84E-23	0.	0.	0.	1.20E-15
86	2.20	0.	2.36E-16	0.	0.	0.	0.	0.	7.02E-16	7.81E-23	0.	0.	0.	1.24E-15
87	2.10	0.	1.52E-15	0.	0.	0.	0.	0.	6.99E-16	8.90E-23	0.	0.	0.	2.50E-15
88	2.00	0.	1.13E-15	0.	0.	0.	0.	0.	6.76E-16	1.04E-22	0.	0.	0.	2.04E-15
89	1.90	0.	1.04E-14	0.	0.	0.	0.	0.	6.50E-16	1.21E-22	0.	0.	0.	1.13E-14
90	1.80	0.	1.92E-14	0.	0.	0.	0.	0.	6.22E-16	1.43E-22	0.	0.	0.	1.99E-14
91	1.70	0.	1.17E-14	0.	0.	0.	0.	0.	5.86E-16	1.69E-22	0.	0.	0.	1.24E-14
92	1.60	0.	1.32E-14	0.	0.	0.	0.	0.	4.96E-16	2.03E-22	0.	0.	0.	1.37E-14
93	1.50	0.	9.94E-15	0.	0.	0.	0.	0.	3.85E-17	2.47E-22	0.	0.	0.	1.02E-14
94	1.40	0.	2.48E-14	0.	0.	0.	0.	0.	2.89E-16	3.04E-22	0.	0.	0.	2.48E-14
95	1.30	0.	7.52E-15	0.	0.	0.	0.	0.	0.	3.79E-22	0.	0.	0.	7.53E-15
96	1.20	0.	2.02E-14	0.	0.	0.	0.	0.	0.	4.82E-22	0.	0.	0.	2.02E-14
97	1.10	0.	5.65E-15	0.	0.	0.	0.	0.	0.	6.27E-22	0.	0.	0.	3.10E-14
98	1.00	0.	9.03E-15	0.	0.	0.	0.	0.	0.	8.35E-22	0.	0.	0.	3.36E-14
99	0.90	0.	3.91E-15	0.	0.	0.	0.	0.	0.	1.15E-21	0.	0.	0.	1.95E-13
100	0.80	0.	1.72E-15	0.	0.	0.	0.	0.	0.	1.64E-21	0.	0.	0.	2.96E-13
101	7.70	0.	4.55E-16	0.	0.	0.	0.	0.	0.	2.45E-21	0.	0.	0.	9.44E-13
102	0.60	0.	1.63E-19	0.	0.	0.	0.	0.	0.	3.90E-21	0.	0.	0.	9.94E-13



## ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

TEMPERATURE (DEGREES K) 4000.

TEMPERATURE

**TOTAL AIR**

0

2

**THE**

6

2

2

2

3

3

# Index

1	10.70	0.	1.94E 00	0.	0.	4.61E-04	4.86E-12	0.	1.90E 00
2	10.69	0.	1.40E 00	0.	0.	4.62E-04	5.00E-12	0.	1.40E 00
3	10.50	0.	1.20E 00	0.	0.	4.63E-04	5.14E-12	0.	1.20E 00
4	10.40	0.	9.26E-01	0.	0.	4.63E-04	5.29E-12	0.	9.26E-01
5	10.30	0.	6.21E-01	0.	0.	4.63E-04	5.43E-12	0.	6.21E-01
6	10.20	0.	5.44E-01	0.	0.	4.64E-04	5.61E-12	0.	5.45E-01
7	10.10	0.	4.35E-01	0.	0.	4.65E-04	5.78E-12	0.	4.35E-01
8	10.00	0.	2.68E-01	0.	0.	4.65E-04	5.90E-12	0.	2.68E-01
9	9.90	0.	2.59E-01	0.	0.	4.66E-04	6.14E-12	0.	2.59E-01
10	9.80	0.	1.90E-01	0.	0.	4.67E-04	6.33E-12	0.	1.90E-01
11	9.70	0.	1.17E-01	0.	0.	4.68E-04	6.53E-12	0.	1.17E-01
12	9.60	0.	1.25E-01	0.	0.	4.69E-04	6.74E-12	0.	1.26E-01
13	9.50	0.	1.21E 02	1.36F 02	1.21E 02	4.70E-04	6.94E-12	0.	1.21E 02
14	9.40	0.	5.63E-02	5.63E-02	5.63E-02	4.71E-04	7.18E-12	0.	1.36E 02
15	9.30	0.	5.31E-02	5.31E-02	5.31E 02	4.73E-04	7.42E-12	0.	1.51E 02
16	9.20	0.	2.71E-02	2.71E-02	1.66E 02	4.75E-04	7.66E-12	0.	1.66E 02
17	9.10	0.	3.00E-02	3.00E-02	2.05E 02	4.76E-04	7.92E-12	0.	1.66E 02
18	9.00	0.	1.88F-02	1.88F-02	2.48E 02	4.78E-04	8.19E-12	0.	2.05E 02
19	8.90	0.	1.39E-02	1.39E-02	2.91F 02	4.80E-04	8.47E-12	0.	2.48E 02
20	8.80	0.	1.20E-02	1.20E-02	3.03E 02	4.82E-04	8.76E-12	0.	2.81E 02
21	8.70	0.	6.94E-03	6.94E-03	2.89E 02	4.83E-04	9.07E-12	0.	3.03E 02
22	8.60	0.	7.08E-03	7.08E-03	2.74E 02	4.85E-04	9.39E-12	0.	2.89E 02
23	8.50	0.	4.88F-03	4.88F-03	2.62E 02	4.87E-04	9.73E-12	0.	2.74E 02
24	8.40	0.	3.79E-03	3.79E-03	2.50E 02	4.89E-04	1.01E-11	0.	2.62E 02
25	8.30	0.	2.21E-03	2.21E-03	2.38E 02	4.92E-04	1.04E-11	0.	2.50E 02
26	8.20	0.	1.99F-03	1.99F-03	2.26E 02	4.94E-04	1.08E-11	0.	2.38E 02
27	8.10	0.	1.23E-03	1.23E-03	2.13E 02	4.97E-04	1.12E-11	0.	2.26E 02
28	8.00	0.	1.07E-03	1.07E-03	2.00E 02	4.99E-04	1.17E-11	0.	2.13E 02
29	7.90	0.	6.74E-04	6.74E-04	1.87E 02	5.02E-04	1.21E-11	0.	2.00E 02
30	7.80	0.	5.98E-04	5.98E-04	1.75E 02	5.05E-04	1.26E-11	0.	1.87E 02
31	7.70	0.	3.91E-04	3.91E-04	1.62E 02	5.07E-04	1.31E-11	0.	1.75E 02
32	7.60	0.	3.00E-04	3.00E-04	1.49E 02	5.10E-04	1.36E-11	0.	1.62E 02
33	7.50	0.	2.13F-04	2.13F-04	1.36E 02	5.12E-04	1.42E-11	0.	1.49E 02
34	7.40	0.	1.52E-04	1.52E-04	1.23E 02	5.15E-04	1.48E-11	0.	1.36E 02
35	7.30	0.	1.12E-04	1.12E-04	1.10E 02	5.18E-04	1.54E-11	0.	1.23E 02
36	7.20	0.	7.85E-05	7.85E-05	9.84E 01	5.21E-04	1.60E-11	0.	1.10E 02
37	7.10	0.	5.04E-05	5.04E-05	8.67F 01	5.25E-04	1.67E-11	0.	9.86F 01
38	7.00	4.13E-01	4.20E-05	4.20E-05	0.	5.29E-04	1.75E-11	0.	8.68E 01
39	6.90	6.98F-01	3.01E-05	3.01E-05	0.	5.34E-04	1.82E		

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY	O2 S-R BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
52	5.60	5.14E-08	0.	0.	2.61E-01	3.19E 00	0.	0.	4.92E-04	3.41E-11	0.	0.	3.47E 00
53	5.50	0.	0.	0.	4.03E-01	4.71E 00	0.	0.	4.95E-04	3.60E-11	0.	0.	5.11E 00
54	5.40	0.	0.	0.	2.83E-01	1.13E 00	0.	0.	4.97E-04	3.61E-11	0.	0.	1.42E 00
55	5.30	0.	0.	0.	2.80E-01	3.39E 00	0.	0.	5.01E-04	4.23E-11	0.	0.	3.67E 00
56	5.20	0.	0.	0.	2.66E-01	1.11E 00	0.	0.	5.04E-04	4.27E-11	0.	0.	1.30E 00
57	5.10	0.	0.	0.	2.23E-01	1.46E 00	0.	0.	1.53E-02	3.00E-04	4.52E-11	0.	1.70E 00
58	5.00	3.69E-01	0.	0.	1.55E-02	3.12E-04	4.60E-11	0.	1.55E-02	3.12E-04	4.60E-11	0.	1.90E 00
59	4.90	7.12E-01	0.	0.	1.56E-02	3.17E-04	3.10E-11	0.	1.56E-02	3.17E-04	3.10E-11	0.	1.63E 00
60	4.80	9.92E-01	0.	0.	1.57E-02	3.21E-04	3.40E-11	0.	1.57E-02	3.21E-04	3.40E-11	0.	1.97E 00
61	4.70	1.00E 00	0.	0.	1.58E-02	3.25E-04	3.70E-11	0.	1.58E-02	3.25E-04	3.70E-11	0.	1.52E 00
62	4.60	1.06E 00	0.	0.	1.59E-02	3.29E-04	4.00E-11	0.	1.59E-02	3.29E-04	4.00E-11	0.	1.65E 00
63	4.50	8.85E-01	0.	0.	1.60E-02	3.34E-04	4.30E-11	0.	1.60E-02	3.34E-04	4.30E-11	0.	1.17E 00
64	4.40	7.40E-01	0.	0.	1.61E-02	3.38E-04	4.60E-11	0.	1.61E-02	3.38E-04	4.60E-11	0.	1.03E 00
65	4.30	5.56E-01	0.	0.	1.63E-02	3.42E-04	4.90E-11	0.	1.63E-02	3.42E-04	4.90E-11	0.	6.97E-01
66	4.20	4.33E-01	0.	0.	1.65E-02	3.46E-04	5.20E-11	0.	1.65E-02	3.46E-04	5.20E-11	0.	5.75E-01
67	4.10	3.43E-01	0.	0.	1.67E-02	3.49E-04	5.50E-11	0.	1.67E-02	3.49E-04	5.50E-11	0.	4.17E-01
68	4.00	2.55E-01	0.	0.	1.68E-02	3.51E-04	5.80E-11	0.	1.68E-02	3.51E-04	5.80E-11	0.	3.15E-01
69	3.90	1.67E-01	0.	0.	1.70E-02	3.54E-04	6.10E-11	0.	1.70E-02	3.54E-04	6.10E-11	0.	2.12E-01
70	3.80	1.04E-01	0.	0.	1.72E-02	3.56E-04	6.40E-11	0.	1.72E-02	3.56E-04	6.40E-11	0.	2.04E-01
71	3.70	1.04E-01	0.	0.	1.74E-02	3.58E-04	6.70E-11	0.	1.74E-02	3.58E-04	6.70E-11	0.	1.33E-01
72	3.60	7.76E-02	0.	0.	1.76E-02	3.60E-04	7.00E-11	0.	1.76E-02	3.60E-04	7.00E-11	0.	1.09E-01
73	3.50	5.85E-02	0.	0.	1.79E-02	3.61E-04	7.30E-11	0.	1.79E-02	3.61E-04	7.30E-11	0.	8.35E-02
74	3.40	4.02E-02	0.	0.	1.81E-02	3.63E-04	7.60E-11	0.	1.81E-02	3.63E-04	7.60E-11	0.	6.50E-02
75	3.30	2.70E-02	0.	0.	1.82E-02	3.65E-04	7.90E-11	0.	1.82E-02	3.65E-04	7.90E-11	0.	4.90E-02
76	3.20	1.83E-02	0.	0.	1.84E-02	3.67E-04	8.20E-11	0.	1.84E-02	3.67E-04	8.20E-11	0.	4.01E-02
77	3.10	1.37E-02	0.	0.	1.86E-02	3.69E-04	8.50E-11	0.	1.86E-02	3.69E-04	8.50E-11	0.	3.40E-02
78	3.00	9.39E-03	0.	0.	1.88E-02	3.71E-04	8.80E-11	0.	1.88E-02	3.71E-04	8.80E-11	0.	2.90E-02
79	2.90	5.89E-03	0.	0.	1.79E-02	3.60E-04	8.47E-11	0.	1.79E-02	3.60E-04	8.47E-11	0.	2.50E-02
80	2.80	3.08E-03	0.	0.	1.76E-02	3.56E-04	8.14E-11	0.	1.76E-02	3.56E-04	8.14E-11	0.	2.32E-02
81	2.70	2.18E-03	0.	0.	1.73E-02	3.52E-04	7.81E-11	0.	1.73E-02	3.52E-04	7.81E-11	0.	1.92E-02
82	2.60	1.54E-03	0.	0.	1.66E-02	3.49E-04	7.48E-11	0.	1.66E-02	3.49E-04	7.48E-11	0.	1.77E-02
83	2.50	3.16E-03	0.	0.	1.61E-02	3.45E-04	7.15E-11	0.	1.61E-02	3.45E-04	7.15E-11	0.	1.65E-02
84	2.40	2.40E-03	0.	0.	1.55E-02	3.41E-04	6.82E-11	0.	1.55E-02	3.41E-04	6.82E-11	0.	1.57E-02
85	2.30	0.	0.	0.	1.45E-02	3.37E-04	6.49E-11	0.	1.45E-02	3.37E-04	6.49E-11	0.	1.40E-02
86	2.20	0.	0.	0.	1.35E-02	3.33E-04	6.16E-11	0.	1.35E-02	3.33E-04	6.16E-11	0.	1.37E-02
87	2.10	0.	0.	0.	1.24E-02	3.29E-04	5.83E-11	0.	1.24E-02	3.29E-04	5.83E-11	0.	1.27E-02
88	2.00	0.	0.	0.	1.11E-02	3.25E-04	5.50E-11	0.	1.11E-02	3.25E-04	5.50E-11	0.	1.14E-02
89	1.90	0.	0.	0.	9.92E-03	3.21E-04	5.17E-11	0.	9.92E-03	3.21E-04	5.17E-11	0.	1.02E-02
90	1.80	0.	0.	0.	8.66E-03	3.17E-04	4.84E-11	0.	8.66E-03	3.17E-04	4.84E-11	0.	8.92E-03
91	1.70	0.	0.	0.	5.31E-03	3.13E-04	4.51E-11	0.	5.31E-03	3.13E-04	4.51E-11	0.	6.92E-03
92	1.60	0.	0.	0.	4.44E-03	3.09E-04	4.18E-11	0.	4.44E-03	3.09E-04	4.18E-11	0.	5.55E-03
93	1.50	0.	0.	0.	4.54E-03	3.05E-04	3.85E-11	0.	4.54E-03	3.05E-04	3.85E-11	0.	4.15E-03
94	1.40	0.	0.	0.	7.77E-03	3.01E-04	3.52E-11	0.	7.77E-03	3.01E-04	3.52E-11	0.	3.07E-03
95	1.30	0.	0.	0.	3.53E-03	2.97E-04	3.19E-11	0.	3.53E-03	2.97E-04	3.19E-11	0.	2.02E-03
96	1.20	0.	0.	0.	4.19E-03	2.93E-04	2.86E-11	0.	4.19E-03	2.93E-04	2.86E-11	0.	1.33E-03
97	1.10	0.	0.	0.	2.69E-03	2.89E-04	2.53E-11	0.	2.69E-03	2.89E-04	2.53E-11	0.	8.13E-04
98	1.00	0.	0.	0.	3.29E-03	2.85E-04	2.20E-11	0.	3.29E-03	2.85E-04	2.20E-11	0.	4.61E-04
99	0.90	0.	0.	0.	1.92E-03	2.81E-04	1.87E-11	0.	1.92E-03	2.81E-04	1.87E-11	0.	3.05E-04
100	0.80	0.	0.	0.	8.24E-04	2.77E-04	1.54E-11	0.	8.24E-04	2.77E-04	1.54E-11	0.	6.85E-04
101	0.70	0.	0.	0.	2.42E-04	2.73E-04	1.21E-11	0.	2.42E-04	2.73E-04	1.21E-11	0.	8.65E-04
102	0.60	0.	0.	0.	6.20E-04	2.69E-04	8.80E-12	0.	6.20E-04	2.69E-04	8.80E-12	0.	1.94E-03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		4000.		DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)		0-		FREE-FREE		N		0	
PHOTON ENERGY E.V.		02 S-R CONT.		NO BETA		NO GAMMA		NO 2		PHOTO-DET		P.E.	
NO. 1		NO. 1		NO. 1		NO. 1		NO. 1		NO. 1		NO. 1	
TOTAL AIR		TOTAL AIR		TOTAL AIR		TOTAL AIR		TOTAL AIR		TOTAL AIR		TOTAL AIR	
1	10.70 0.	2.00E-01	0.	0.	0.	0.	0.	0.	0.	4.55E-05	4.24E-13	0.	2.00E-01
2	10.60 0.	1.41E-01	0.	0.	0.	0.	0.	0.	0.	4.55E-05	4.37E-13	0.	1.41E-01
3	10.50 0.	1.21E-01	0.	0.	0.	0.	0.	0.	0.	4.56E-05	4.49E-13	0.	1.21E-01
4	10.40 0.	9.33E-02	0.	0.	0.	0.	0.	0.	0.	4.57E-05	4.62E-13	0.	9.33E-02
5	10.30 0.	6.26E-02	0.	0.	0.	0.	0.	0.	0.	4.57E-05	4.76E-13	0.	6.26E-02
6	10.20 0.	5.49E-02	0.	0.	0.	0.	0.	0.	0.	4.58E-05	4.90E-13	0.	5.49E-02
7	10.10 0.	4.38E-02	0.	0.	0.	0.	0.	0.	0.	4.58E-05	5.05E-13	0.	4.38E-02
8	10.00 0.	2.70E-02	0.	0.	0.	0.	0.	0.	0.	4.59E-05	5.21E-13	0.	2.70E-02
9	9.90 0.	2.61E-02	0.	0.	0.	0.	0.	0.	0.	4.60E-05	5.37E-13	0.	2.61E-02
10	9.80 0.	1.91E-02	0.	0.	0.	0.	0.	0.	0.	4.61E-05	5.53E-13	0.	1.91E-02
11	9.70 0.	1.18E-02	0.	0.	0.	0.	0.	0.	0.	4.61E-05	5.71E-13	0.	1.18E-02
12	9.60 0.	1.26E-02	0.	0.	0.	0.	0.	0.	0.	4.62E-05	5.89E-13	0.	1.27E-02
13	9.50 0.	9.15E-03	0.	0.	0.	0.	0.	0.	0.	4.63E-05	6.08E-13	0.	9.16E-03
14	9.40 0.	1.03E-01	0.	0.	0.	0.	0.	0.	0.	4.63E-05	6.28E-13	0.	1.03E-01
15	9.30 0.	1.15E-01	0.	0.	0.	0.	0.	0.	0.	4.67E-05	6.48E-13	0.	1.15E-01
16	9.20 0.	1.26E-01	0.	0.	0.	0.	0.	0.	0.	4.68E-05	6.70E-13	0.	1.26E-01
17	9.10 0.	1.56E-01	0.	0.	0.	0.	0.	0.	0.	4.70E-05	6.92E-13	0.	1.56E-01
18	9.00 0.	1.88E-01	0.	0.	0.	0.	0.	0.	0.	4.72E-05	7.16E-13	0.	1.88E-01
19	8.90 0.	2.21E-01	0.	0.	0.	0.	0.	0.	0.	4.73E-05	7.40E-13	0.	2.21E-01
20	8.80 0.	2.30E-01	0.	0.	0.	0.	0.	0.	0.	4.75E-05	7.66E-13	0.	2.30E-01
21	8.70 0.	2.19E-01	0.	0.	0.	0.	0.	0.	0.	4.77E-05	7.92E-13	0.	2.19E-01
22	8.60 0.	2.09E-01	0.	0.	0.	0.	0.	0.	0.	4.78E-05	8.21E-13	0.	2.09E-01
23	8.50 0.	1.99E-01	0.	0.	0.	0.	0.	0.	0.	4.80E-05	8.50E-13	0.	1.99E-01
24	8.40 0.	1.90E-01	0.	0.	0.	0.	0.	0.	0.	4.83E-05	8.81E-13	0.	1.90E-01
25	8.30 0.	1.81E-01	0.	0.	0.	0.	0.	0.	0.	4.85E-05	9.13E-13	0.	1.81E-01
26	8.20 0.	1.71E-01	0.	0.	0.	0.	0.	0.	0.	4.88E-05	9.47E-13	0.	1.71E-01
27	8.10 0.	1.62E-01	0.	0.	0.	0.	0.	0.	0.	4.90E-05	9.83E-13	0.	1.62E-01
28	8.00 0.	1.52E-01	0.	0.	0.	0.	0.	0.	0.	4.93E-05	1.02E-12	0.	1.52E-01
29	7.90 0.	1.42E-01	0.	0.	0.	0.	0.	0.	0.	4.95E-05	1.06E-12	0.	1.42E-01
30	7.80 0.	1.33E-01	0.	0.	0.	0.	0.	0.	0.	4.98E-05	1.10E-12	0.	1.33E-01
31	7.70 0.	1.23E-01	0.	0.	0.	0.	0.	0.	0.	5.00E-05	1.14E-12	0.	1.23E-01
32	7.60 0.	1.13E-01	0.	0.	0.	0.	0.	0.	0.	5.03E-05	1.19E-12	0.	1.13E-01
33	7.50 0.	1.03E-01	0.	0.	0.	0.	0.	0.	0.	5.05E-05	1.24E-12	0.	1.03E-01
34	7.40 0.	9.32E-02	0.	0.	0.	0.	0.	0.	0.	5.08E-05	1.29E-12	0.	9.32E-02
35	7.30 0.	8.37E-02	0.	0.	0.	0.	0.	0.	0.	5.11E-05	1.34E-12	0.	8.37E-02
36	7.20 0.	7.47E-02	0.	0.	0.	0.	0.	0.	0.	5.14E-05	1.40E-12	0.	7.47E-02
37	7.10 0.	6.58E-02	0.	0.	0.	0.	0.	0.	0.	5.18E-05	1.46E-12	0.	6.58E-02
38	7.00 3.13E-02	4.23E-06	0.	0.	0.	0.	0.	0.	0.	5.22E-05	1.53E-12	0.	1.27E-01
39	6.90 3.28E-02	3.03E-06	0.	0.	0.	0.	0.	0.	0.	5.26E-05	1.59E-12	0.	1.22E-01
40	6.80 3.90E-02	2.23E-06	0.	0.	0.	0.	0.	0.	0.	5.31E-05	1.66E-12	0.	1.46E-01
41	6.70 2.40E-02	1.50E-06	0.	0.	0.	0.	0.	0.	0.	5.35E-05	1.74E-12	0.	3.55E-01
42	6.60 1.27E-02	1.03E-06	0.	0.	0.	0.	0.	0.	0.	5.39E-05	1.82E-12	0.	1.33E-01
43	6.50 6.12E-03	5.91E-07	0.	0.	0.	0.	0.	0.	0.	5.43E-05	1.91E-12	0.	2.05E-01
44	6.40 2.76E-03	2.52E-07	0.	0.	0.	0.	0.	0.	0.	5.47E-05	2.00E-12	0.	5.64E-01
45	6.30 1.26E-03	8.91E-08	0.	0.	0.	0.	0.	0.	0.	5.52E-05	2.09E-12	0.	1.95E-01
46	6.20 4.54E-04	2.90E-08	0.	0.	0.	0.	0.	0.	0.	5.56E-05	2.20E-12	0.	2.37E-01
47	6.10 1.59E-04	8.54E-09	0.	0.	0.	0.	0.	0.	0.	5.60E-05	2.31E-12	0.	8.30E-01
48	6.00 5.33E-05	1.60E-09	0.	0.	0.	0.	0.	0.	0.	5.64E-05	2.43E-12	0.	1.53E-01
49	5.90 1.10E-05	1.08E-10	0.	0.	0.	0.	0.	0.	0.	5.68E-05	2.55E-12	0.	2.04E-01
50	5.80 1.32E-06	2.44E-12	0.	0.	0.	0.	0.	0.	0.	5.96E-05	2.69E-12	0.	2.34E-01
51	5.70 9.49E-08	0.	0.	0.	0.	0.	0.	0.	0.	5.22E-05	2.83E-12	0.	1.35E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY	O2 BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60 3.90E-09	0.	0.	0.	2.46E-02	2.79E-01	0.	0.	4.86E-05	2.98E-12	0.	0.	3.03E-01
53	5.50 0.	0.	0.	0.	3.52E-02	4.11E-01	0.	0.	4.88E-05	3.15E-12	0.	0.	4.47E-01
54	5.40 0.	0.	0.	0.	2.48E-02	9.90E-02	0.	0.	4.91E-05	3.33E-12	0.	0.	1.24E-01
55	5.30 0.	0.	0.	0.	2.52E-02	2.96E-01	0.	0.	4.94E-05	3.52E-12	0.	0.	3.21E-01
56	5.20 0.	0.	0.	0.	2.32E-02	9.71E-02	0.	0.	4.97E-05	3.73E-12	0.	0.	1.20E-01
57	5.10 0.	0.	0.	0.	1.95E-02	1.27E-01	0.	3.69E-04	5.01E-05	3.95E-12	0.	0.	1.47E-01
58	5.00 2.95E-02	0.	0.	0.	1.42E-02	1.16E-01	0.	3.72E-04	5.05E-05	4.19E-12	0.	0.	1.60E-01
59	4.90 5.39E-02	0.	0.	0.	1.37E-02	6.50E-02	0.	3.75E-04	5.10E-05	4.46E-12	0.	0.	1.33E-01
60	4.80 7.51E-02	0.	0.	0.	1.40E-02	7.03E-02	0.	3.77E-04	5.14E-05	4.74E-12	0.	0.	1.60E-01
61	4.70 7.59E-02	0.	0.	0.	1.15E-02	3.27E-02	0.	3.80E-04	5.18E-05	5.05E-12	0.	0.	1.20E-01
62	4.60 8.02E-02	0.	0.	0.	1.04E-02	3.95E-02	0.	3.83E-04	5.22E-05	5.39E-12	0.	0.	1.31E-01
63	4.50 6.70E-02	0.	7.22E-09	0.	7.49E-03	1.63E-02	0.	3.86E-04	5.26E-05	5.76E-12	0.	0.	9.13E-02
64	4.40 5.60E-02	0.	5.22E-08	0.	6.53E-03	1.73E-02	0.	3.88E-04	5.31E-05	6.16E-12	0.	0.	8.03E-02
65	4.30 4.21E-02	0.	4.64E-08	0.	4.99E-03	5.81E-03	0.	3.93E-04	5.35E-05	6.60E-12	0.	0.	5.34E-02
66	4.20 3.28E-02	0.	4.57E-07	0.	4.55E-03	6.38E-03	0.	3.98E-04	5.39E-05	7.08E-12	0.	0.	4.42E-02
67	4.10 2.60E-02	0.	4.23E-08	0.	3.45E-03	1.57E-03	0.	4.02E-04	5.41E-05	7.61E-12	0.	0.	3.14E-02
68	4.00 1.93E-02	0.	5.80E-07	0.	2.82E-03	9.24E-04	0.	4.05E-04	5.43E-05	8.20E-12	0.	0.	2.35E-02
69	3.90 1.26E-02	0.	3.50E-07	1.24E-12	1.87E-03	5.84E-04	0.	4.09E-04	5.41E-05	8.85E-12	0.	0.	1.55E-02
70	3.80 1.25E-02	0.	2.07E-07	5.07E-11	1.90E-03	0.	0.	4.14E-04	5.39E-05	9.56E-12	0.	0.	1.48E-02
71	3.70 7.65E-03	0.	6.86E-07	8.65E-12	1.03E-03	0.	0.	4.19E-04	5.31E-05	1.04E-11	0.	0.	9.35E-03
72	3.60 5.88E-03	0.	1.04E-07	2.01E-11	1.16E-03	0.	0.	4.25E-04	4.97E-05	1.12E-11	0.	0.	7.51E-03
73	3.50 4.44E-03	0.	3.52E-07	2.60E-10	5.73E-04	0.	0.	4.30E-04	4.95E-05	1.22E-11	0.	0.	5.49E-03
74	3.40 3.04E-03	0.	5.92E-08	1.64E-12	6.37E-04	0.	0.	4.36E-04	4.62E-05	1.34E-11	0.	0.	4.14E-03
75	3.30 2.09E-03	0.	1.14E-07	3.86E-11	3.33E-04	0.	0.	4.39E-04	2.63E-05	1.46E-11	0.	0.	2.89E-03
76	3.20 1.38E-03	0.	2.71E-08	3.67E-10	3.21E-04	0.	0.	4.42E-04	2.63E-05	1.60E-11	0.	0.	2.17E-03
77	3.10 1.04E-03	0.	3.00E-08	2.85E-12	2.14E-04	0.	0.	4.42E-04	2.64E-05	1.76E-11	0.	0.	1.72E-03
78	3.00 7.11E-04	0.	8.77E-09	4.17E-11	1.59E-04	0.	0.	4.37E-04	2.64E-05	1.95E-11	0.	0.	1.33E-03
79	2.90 4.46E-04	0.	6.02E-09	6.39E-11	7.57E-05	0.	0.	4.31E-04	2.65E-05	2.15E-11	0.	0.	9.80E-04
80	2.80 3.79E-04	0.	1.91E-09	3.00E-12	3.06E-05	0.	0.	4.24E-04	2.65E-05	2.39E-11	0.	0.	8.60E-04
81	2.70 1.60E-04	0.	9.87E-10	2.01E-11	8.88E-06	0.	0.	4.16E-04	2.65E-05	2.67E-11	0.	0.	6.11E-04
82	2.60 4.35E-05	0.	4.09E-10	3.13E-12	2.22E-06	0.	0.	4.05E-04	2.65E-05	2.99E-11	0.	0.	4.78E-04
83	2.50 2.39E-06	0.	8.59E-11	5.40E-13	3.18E-07	0.	0.	3.89E-04	2.65E-05	3.36E-11	0.	0.	4.18E-04
84	2.40 0.	1.33E-08	0.	1.54E-12	2.93E-08	0.	0.	3.73E-04	2.65E-05	3.80E-11	0.	0.	3.99E-04
85	2.30 0.	2.01E-07	0.	0.	0.	0.	0.	3.49E-04	2.63E-05	4.32E-11	0.	0.	3.76E-04
86	2.20 0.	2.40E-07	0.	0.	0.	0.	0.	3.24E-04	2.62E-05	4.94E-11	0.	0.	3.51E-04
87	2.10 0.	9.37E-07	0.	0.	0.	0.	0.	2.99E-04	2.61E-05	5.68E-11	0.	0.	3.26E-04
88	2.00 0.	8.04E-07	0.	0.	0.	0.	0.	2.67E-04	2.53E-05	6.58E-11	0.	0.	2.93E-04
89	1.90 0.	4.99E-06	0.	0.	0.	0.	0.	2.39E-04	2.43E-05	7.67E-11	0.	0.	2.68E-04
90	1.80 0.	6.11E-06	0.	0.	0.	0.	0.	1.98E-04	2.32E-05	9.03E-11	0.	0.	2.27E-04
91	1.70 0.	5.36E-06	0.	0.	0.	0.	0.	1.60E-04	2.19E-05	1.07E-10	0.	0.	1.87E-04
92	1.60 0.	4.47E-06	0.	0.	0.	0.	0.	1.28E-04	1.89E-05	1.29E-10	0.	0.	1.51E-04
93	1.50 0.	4.57E-06	0.	0.	0.	0.	0.	9.67E-05	1.56E-10	1.56E-10	0.	0.	1.10E-04
94	1.40 0.	7.83E-06	0.	0.	0.	0.	0.	7.20E-05	0.42E-06	1.92E-10	0.	0.	7.98E-05
95	1.30 0.	3.56E-06	0.	0.	0.	0.	0.	4.78E-05	0.	2.40E-10	0.	0.	5.14E-05
96	1.20 0.	6.24E-06	0.	0.	0.	0.	0.	3.06E-05	0.	3.06E-10	0.	0.	3.68E-05
97	1.10 0.	2.70E-06	0.	0.	0.	0.	2.04E-06	1.83E-05	0.	3.98E-10	0.	0.	2.31E-05
98	1.00 0.	3.32E-06	0.	0.	0.	0.	4.27E-06	9.13E-06	0.	5.30E-10	0.	0.	1.67E-05
99	0.90 0.	1.94E-06	0.	0.	0.	0.	1.55E-05	4.55E-06	0.	7.29E-10	0.	0.	2.20E-05
100	0.80 0.	8.30E-07	0.	0.	0.	0.	5.92E-05	0.	0.	1.04E-09	0.	0.	6.00E-05
101	0.70 0.	2.44E-07	0.	0.	0.	0.	7.54E-05	0.	0.	1.56E-09	0.	0.	7.56E-05
102	0.60 0.	6.25E-10	0.	0.	0.	0.	1.69E-04	0.	0.	2.49E-09	0.	0.	1.69E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON ENERGY E.V	02 S-R RANOS	02 S-R CONT.	N2 R-W NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	0.	0.	2.03E-02	0.	0.	0.	2.67E-06	2.88E-14	0.	0.	2.03E-02
2 10.60 0.	0.	0.	1.44E-02	0.	0.	0.	2.67E-06	2.97E-14	0.	0.	1.44E-02
3 10.50 0.	0.	0.	1.23E-02	0.	0.	0.	2.67E-06	3.05E-14	0.	0.	1.23E-02
4 10.40 0.	0.	0.	9.49E-03	0.	0.	0.	2.68E-06	3.14E-14	0.	0.	9.49E-03
5 10.30 0.	0.	0.	6.36E-03	0.	0.	0.	2.68E-06	3.24E-14	0.	0.	6.37E-03
6 10.20 0.	0.	0.	5.58E-03	0.	0.	0.	2.68E-06	3.33E-14	0.	0.	5.58E-03
7 10.10 0.	0.	0.	4.46E-03	0.	0.	0.	2.69E-06	3.43E-14	0.	0.	4.46E-03
8 10.00 0.	0.	0.	2.74E-03	0.	0.	0.	2.69E-06	3.54E-14	0.	0.	2.75E-03
9 9.90 0.	0.	0.	2.65E-03	0.	0.	0.	2.70E-06	3.65E-14	0.	0.	2.65E-03
10 9.80 0.	0.	0.	1.94E-03	0.	0.	0.	2.70E-06	3.76E-14	0.	0.	1.95E-03
11 9.70 0.	0.	0.	1.20E-03	0.	0.	0.	2.71E-06	3.88E-14	0.	0.	1.20E-03
12 9.60 0.	0.	0.	1.20E-03	0.	0.	0.	2.71E-06	4.00E-14	0.	0.	1.29E-03
13 9.50 0.	4.17E-01	0.	7.54E-04	0.	0.	0.	2.72E-06	4.13E-14	0.	0.	4.18E-01
14 9.40 0.	4.70E-01	0.	5.77E-04	0.	0.	0.	2.73E-06	4.26E-14	0.	0.	4.70E-01
15 9.30 0.	5.22E-01	0.	5.45E-04	0.	0.	0.	2.74E-06	4.40E-14	0.	0.	5.23E-01
16 9.20 0.	5.75E-01	0.	2.78E-04	0.	0.	0.	2.75E-06	4.55E-14	0.	0.	5.75E-01
17 9.10 0.	7.09E-01	0.	3.08E-04	0.	0.	0.	2.76E-06	4.70E-14	0.	0.	7.09E-01
18 9.00 0.	8.58E-01	0.	1.93E-04	0.	0.	0.	2.77E-06	4.86E-14	0.	0.	8.58E-01
19 8.90 0.	1.01E 00	0.	1.42E-04	0.	0.	0.	2.78E-06	5.03E-14	0.	0.	1.01E 00
20 8.80 0.	1.05E 00	0.	1.23E-04	0.	0.	0.	2.79E-06	5.20E-14	0.	0.	1.05E 00
21 8.70 0.	9.90E-01	0.	7.11E-05	0.	0.	0.	2.80E-06	5.38E-14	0.	0.	9.99E-01
22 8.60 0.	9.51E-01	0.	7.26E-05	0.	0.	0.	2.81E-06	5.57E-14	0.	0.	9.51E-01
23 8.50 0.	9.06E-01	0.	4.18E-05	0.	0.	0.	2.81E-06	5.77E-14	0.	0.	9.06E-01
24 8.40 0.	8.64E-01	0.	3.88E-05	0.	0.	0.	2.83E-06	5.98E-14	0.	0.	8.64E-01
25 8.30 0.	8.24E-01	0.	2.27E-05	0.	0.	0.	2.84E-06	6.20E-14	0.	0.	8.24E-01
26 8.20 0.	7.81E-01	0.	2.04E-05	0.	0.	0.	2.86E-06	6.44E-14	0.	0.	7.81E-01
27 8.10 0.	7.36E-01	0.	1.26E-05	0.	0.	0.	2.87E-06	6.68E-14	0.	0.	7.36E-01
28 8.00 0.	6.91E-01	0.	1.10E-05	0.	0.	0.	2.89E-06	6.93E-14	0.	0.	6.91E-01
29 7.90 0.	6.48E-01	0.	6.91E-06	0.	0.	0.	2.90E-06	7.20E-14	0.	0.	6.48E-01
30 7.80 0.	6.04E-01	0.	6.13E-06	0.	0.	0.	2.92E-06	7.48E-14	0.	0.	6.04E-01
31 7.70 0.	5.59E-01	0.	4.01E-06	0.	0.	0.	2.93E-06	7.78E-14	0.	0.	5.59E-01
32 7.60 0.	5.14E-01	0.	3.08E-06	0.	7.05E-07	0.	2.95E-06	8.09E-14	0.	0.	5.14E-01
33 7.50 0.	4.69E-01	0.	2.18E-06	0.	1.66E-05	0.	2.96E-06	8.42E-14	0.	0.	4.69E-01
34 7.40 0.	4.25E-01	0.	1.56E-06	0.	3.58E-05	0.	2.98E-06	8.77E-14	0.	0.	4.25E-01
35 7.30 0.	3.81E-01	0.	1.15E-06	0.	1.88E-04	0.	3.00E-06	9.14E-14	0.	0.	3.81E-01
36 7.20 0.	3.40E-01	0.	8.05E-07	0.	1.12E-03	0.	3.01E-06	9.52E-14	0.	0.	3.41E-01
37 7.10 0.	3.00E-01	0.	6.09E-07	0.	6.81E-03	0.	3.04E-06	9.93E-14	0.	0.	3.00E-01
38 7.00 0.	2.60E-01	0.	4.30E-07	0.	6.47E-03	0.	3.06E-06	1.04E-13	0.	0.	2.60E-01
39 6.90 0.	2.20E-01	0.	3.09E-07	0.	4.69E-03	0.	3.09E-06	1.08E-13	0.	0.	2.20E-01
40 6.80 0.	1.77E-01	0.	2.27E-07	0.	7.30E-03	0.	3.11E-06	1.13E-13	0.	0.	1.77E-01
41 6.70 0.	1.09E-01	0.	1.53E-07	0.	2.25E-02	0.	3.14E-06	1.18E-13	0.	0.	1.09E-01
42 6.60 0.	5.75E-02	0.	1.05E-07	0.	8.15E-03	0.	3.16E-06	1.24E-13	0.	0.	5.75E-02
43 6.50 0.	2.78E-02	0.	6.01E-08	0.	1.35E-02	0.	3.19E-06	1.30E-13	0.	0.	2.78E-02
44 6.40 0.	1.26E-02	0.	2.57E-08	4.49E-04	3.77E-02	0.	3.21E-06	1.36E-13	0.	0.	1.38E-02
45 6.30 0.	5.73E-03	0.	9.06E-09	1.54E-03	1.17E-02	0.	3.23E-06	1.42E-13	0.	0.	1.33E-02
46 6.20 0.	2.06E-03	0.	2.95E-09	1.71E-03	4.3E-02	0.	3.26E-06	1.49E-13	0.	0.	1.61E-02
47 6.10 0.	7.21E-04	0.	8.69E-10	4.00E-03	5.24E-02	0.	3.28E-06	1.57E-13	0.	0.	5.64E-02
48 6.00 0.	2.42E-04	0.	1.62E-10	2.37E-03	7.99E-02	0.	3.31E-06	1.65E-13	0.	0.	1.04E-02
49 5.90 0.	5.00E-04	0.	1.10E-11	3.15E-03	1.07E-02	0.	3.33E-06	1.73E-13	0.	0.	1.39E-02
50 5.80 0.	6.01E-04	0.	2.48E-13	3.77E-03	1.21E-02	0.	3.36E-06	1.82E-13	0.	0.	1.59E-02
51 5.70 0.	4.31E-04	0.	0.	3.59E-03	5.85E-03	0.	3.36E-06	1.92E-13	0.	0.	9.15E-03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		4000.		DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR	
PHOTON ENERGY	N2	N2	N2	N2	N2	N2	N2	N2	N2	N2	N2	N2	N2
1ST POS.	2ND POS.	1ST NEG.	BETA	GAMMA	VIB-ROT	NO	PHOTO-DET	FREE-FREE	N	P.E.	0	P.E.	0
52 5.60 1.77E-10	0.	0.	1.67E-03	1.89E-02	0.	0.	2.85E-06	2.03E-13	0.	0.	0.	2.06E-02	0.
53 5.50 0.	0.	0.	2.39E-03	2.80E-02	0.	0.	2.86E-06	2.14E-13	0.	0.	0.	3.04E-02	0.
54 5.40 0.	0.	0.	1.68E-03	6.73E-03	0.	0.	2.88E-06	2.26E-13	0.	0.	0.	8.41E-03	0.
55 5.30 0.	0.	0.	1.71E-03	2.01E-02	0.	0.	2.90E-06	2.39E-13	0.	0.	0.	2.18E-02	0.
56 5.20 0.	0.	0.	1.58E-03	6.60E-03	0.	0.	2.91E-06	2.53E-13	0.	0.	0.	8.18E-03	0.
57 5.10 0.	0.	0.	1.32E-03	8.66E-03	0.	0.	2.94E-06	2.68E-13	0.	0.	0.	9.99E-03	0.
58 5.00 1.34E-03	0.	0.	9.63E-04	7.90E-03	0.	0.	2.96E-06	2.83E-13	0.	0.	0.	1.02E-02	0.
59 4.90 2.45E-03	0.	0.	9.28E-04	4.42E-03	0.	0.	2.99E-06	3.03E-13	0.	0.	0.	7.80E-03	0.
60 4.80 3.41E-03	0.	0.	9.49E-04	4.78E-03	0.	0.	3.01E-06	3.22E-13	0.	0.	0.	9.14E-03	0.
61 4.70 3.44E-03	0.	0.	7.79E-04	2.22E-03	0.	0.	3.04E-06	3.43E-13	0.	0.	0.	6.46E-03	0.
62 4.60 3.64E-03	0.	0.	7.07E-04	2.68E-03	0.	0.	3.06E-06	3.66E-13	0.	0.	0.	7.04E-03	0.
63 4.50 3.04E-03	0.	0.	5.09E-04	1.11E-03	0.	0.	3.09E-06	3.91E-13	0.	0.	0.	4.67E-03	0.
64 4.40 2.54E-03	0.	0.	4.44E-04	1.18E-03	0.	0.	3.11E-06	4.18E-13	0.	0.	0.	4.17E-03	0.
65 4.30 1.91E-03	0.	0.	3.39E-04	3.95E-04	0.	0.	3.14E-06	4.48E-13	0.	0.	0.	2.65E-03	0.
66 4.20 1.49E-03	0.	0.	3.09E-04	4.34E-04	0.	0.	3.16E-06	4.81E-13	0.	0.	0.	2.24E-03	0.
67 4.10 1.18E-03	0.	0.	2.34E-04	1.06E-04	0.	0.	3.17E-06	5.17E-13	0.	0.	0.	1.32E-03	0.
68 4.00 8.77E-04	0.	0.	1.92E-04	6.28E-05	0.	0.	3.19E-06	5.57E-13	0.	0.	0.	1.14E-03	0.
69 3.90 5.73E-04	0.	0.	1.27E-04	3.97E-05	0.	0.	3.17E-06	6.01E-13	0.	0.	0.	7.49E-04	0.
70 3.80 5.65E-04	0.	0.	1.29E-04	0.	0.	0.	3.16E-06	6.50E-13	0.	0.	0.	7.03E-04	0.
71 3.70 3.56E-04	0.	0.	7.01E-05	0.	0.	0.	3.11E-06	7.04E-13	0.	0.	0.	4.36E-04	0.
72 3.60 2.67E-04	0.	0.	7.91E-05	0.	0.	0.	2.91E-06	7.64E-13	0.	0.	0.	3.55E-04	0.
73 3.50 2.01E-04	0.	0.	3.89E-05	0.	0.	0.	2.67E-06	8.32E-13	0.	0.	0.	2.49E-04	0.
74 3.40 1.38E-04	0.	0.	4.33E-05	0.	0.	0.	1.94E-06	9.07E-13	0.	0.	0.	1.89E-04	0.
75 3.30 9.48E-05	0.	0.	2.26E-05	0.	0.	0.	1.94E-06	9.93E-13	0.	0.	0.	1.25E-04	0.
76 3.20 6.29E-05	0.	0.	2.18E-05	0.	0.	0.	1.94E-06	1.09E-12	0.	0.	0.	9.26E-05	0.
77 3.10 4.70E-05	0.	0.	1.46E-05	0.	0.	0.	1.95E-06	1.20E-12	0.	0.	0.	6.95E-05	0.
78 3.00 3.23E-05	0.	0.	1.08E-05	0.	0.	0.	1.95E-06	1.32E-12	0.	0.	0.	5.09E-05	0.
79 2.90 2.03E-05	0.	0.	5.15E-06	0.	0.	0.	1.95E-06	1.46E-12	0.	0.	0.	3.32E-05	0.
80 2.80 1.72E-05	0.	0.	2.08E-06	0.	0.	0.	1.94E-06	1.63E-12	0.	0.	0.	2.70E-05	0.
81 2.70 7.25E-06	0.	0.	6.04E-07	0.	0.	0.	1.96E-06	1.81E-12	0.	0.	0.	1.54E-05	0.
82 2.60 1.97E-06	0.	0.	1.51E-07	0.	0.	0.	1.96E-06	2.03E-12	0.	0.	0.	9.55E-06	0.
83 2.50 1.09E-07	0.	0.	2.50E-08	0.	0.	0.	1.96E-06	2.28E-12	0.	0.	0.	7.32E-06	0.
84 2.40 0.	1.35E-09	0.	1.99E-09	0.	0.	0.	1.96E-06	2.58E-12	0.	0.	0.	6.95E-06	0.
85 2.30 0.	2.05E-08	0.	0.	0.	0.	0.	1.94E-06	2.93E-12	0.	0.	0.	6.62E-06	0.
86 2.20 0.	2.44E-08	0.	0.	0.	0.	0.	1.94E-06	3.35E-12	0.	0.	0.	6.26E-06	0.
87 2.10 0.	9.53E-08	0.	0.	0.	0.	0.	1.93E-06	3.86E-12	0.	0.	0.	5.93E-06	0.
88 2.00 0.	8.18E-08	0.	0.	0.	0.	0.	1.48E-06	4.47E-12	0.	0.	0.	5.43E-06	0.
89 1.90 0.	5.07E-07	0.	0.	0.	0.	0.	1.42E-06	5.21E-12	0.	0.	0.	5.39E-06	0.
90 1.80 0.	6.21E-07	0.	0.	0.	0.	0.	1.36E-06	6.13E-12	0.	0.	0.	4.85E-06	0.
91 1.70 0.	5.45E-07	0.	0.	0.	0.	0.	1.28E-06	7.28E-12	0.	0.	0.	4.15E-06	0.
92 1.60 0.	4.55E-07	0.	0.	0.	0.	0.	1.09E-06	8.74E-12	0.	0.	0.	3.39E-06	0.
93 1.50 0.	4.65E-07	0.	0.	0.	0.	0.	1.06E-06	1.06E-11	0.	0.	0.	2.36E-06	0.
94 1.40 0.	7.97E-07	0.	0.	0.	0.	0.	1.04E-06	1.31E-11	0.	0.	0.	1.84E-06	0.
95 1.30 0.	3.62E-07	0.	0.	0.	0.	0.	6.92E-07	1.63E-11	0.	0.	0.	1.05E-06	0.
96 1.20 0.	6.35E-07	0.	0.	0.	0.	0.	4.42E-07	2.08E-11	0.	0.	0.	1.08E-06	0.
97 1.10 0.	2.74E-07	0.	0.	0.	0.	0.	1.39E-07	2.70E-11	0.	0.	0.	6.79E-07	0.
98 1.00 0.	3.37E-07	0.	0.	0.	0.	0.	2.90E-07	3.60E-11	0.	0.	0.	7.60E-07	0.
99 0.90 0.	1.97E-07	0.	0.	0.	0.	0.	1.05E-06	4.96E-11	0.	0.	0.	1.31E-06	0.
100 0.80 0.	8.44E-08	0.	0.	0.	0.	0.	4.02E-06	7.07E-11	0.	0.	0.	4.10E-06	0.
101 0.70 0.	2.48E-08	0.	0.	0.	0.	0.	5.12E-06	1.06E-10	0.	0.	0.	5.15E-06	0.
102 0.60 0.	6.34E-11	0.	0.	0.	0.	0.	1.15E-05	1.69E-10	0.	0.	0.	1.15E-05	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		4000.	DENSITY (GM/CC)		1.293E-03	(10.0E-03 NORMAL)		FREE-FREE		PHOTO-DET (IONS)		N		P.E.		TOTAL AIR	
PHOTON 02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R
E-ENERGY	BANDS	CONT.	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1
E.V.																	
1	10.70	0.	2.07E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.07E-03
2	10.60	0.	1.46E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-03
3	10.50	0.	1.25E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.25E-03
4	10.40	0.	9.67E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.67E-04
5	10.30	0.	6.49E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.49E-04
6	10.20	0.	5.69E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.69E-04
7	10.10	0.	4.55E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.55E-04
8	10.00	0.	2.80E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.80E-04
9	9.90	0.	2.70E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.70E-04
10	9.80	0.	1.98E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.98E-04
11	9.70	0.	1.22E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.22E-04
12	9.60	0.	1.31E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-04
13	9.50	0.	7.69E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.69E-05
14	9.40	0.	5.88E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.88E-05
15	9.30	0.	5.55E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.55E-05
16	9.20	0.	2.83E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.83E-05
17	9.10	0.	3.14E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.14E-05
18	9.00	0.	1.97E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.97E-05
19	8.90	0.	1.45E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.45E-05
20	8.80	0.	1.25E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.25E-05
21	8.70	0.	7.25E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.25E-06
22	8.60	0.	7.40E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.40E-06
23	8.50	0.	4.26E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.26E-06
24	8.40	0.	3.96E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.96E-06
25	8.30	0.	2.31E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.31E-06
26	8.20	0.	2.08E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.08E-06
27	8.10	0.	1.29E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-06
28	8.00	0.	1.36E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.36E-06
29	7.90	0.	1.28E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.28E-06
30	7.80	0.	6.25E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.25E-07
31	7.70	0.	4.09E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.09E-07
32	7.60	0.	3.14E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.14E-07
33	7.50	0.	2.22E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.22E-07
34	7.40	0.	1.59E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.59E-07
35	7.30	0.	1.17E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.17E-07
36	7.20	0.	8.21E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.21E-08
37	7.10	0.	6.21E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.21E-08
38	7.00	0.	4.39E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.39E-08
39	6.90	0.	3.15E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.15E-08
40	6.80	0.	2.31E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.31E-08
41	6.70	0.	1.56E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.56E-08
42	6.60	0.	1.07E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.07E-08
43	6.50	0.	6.13E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.13E-09
44	6.40	0.	2.62E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.62E-09
45	6.30	0.	9.24E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.24E-10
46	6.20	0.	3.01E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.01E-10
47	6.10	0.	8.86E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.86E-11
48	6.00	0.	1.66E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.66E-11
49	5.90	0.	1.12E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.12E-12
50	5.80	0.	2.53E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.53E-14
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-08 (10.0E-03 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2* 1ST NEG.	BETA	NO GAMMA	N2 18-ROT	NO 2	PHOTO-DET (IONS)	FREE-FREE N	P.E.	TOTAL AIR
52	5.60	3.49E-12	0.	7.50E-05	8.49E-04	0.	0.	8.36E-08	9.06E-15	0.	9.24E-04
53	5.50	0.	0.	1.07E-04	1.25E-03	0.	0.	8.61E-08	9.58E-15	0.	1.36E-03
54	5.40	0.	0.	7.55E-05	3.02E-04	0.	0.	8.65E-08	1.01E-14	0.	3.77E-04
55	5.30	0.	0.	7.67E-05	9.02E-04	0.	0.	8.71E-08	1.07E-14	0.	9.78E-04
56	5.20	0.	0.	7.08E-05	2.96E-04	0.	0.	8.76E-08	1.13E-14	0.	3.47E-04
57	5.10	0.	0.	5.93E-05	3.88E-04	0.	0.	8.84E-08	1.20E-14	0.	4.48E-04
58	5.00	2.64E-05	0.	4.32E-05	3.54E-04	0.	3.37E-08	8.91E-08	1.28E-14	0.	4.24E-04
59	4.90	4.83E-05	0.	4.16E-05	1.98E-04	0.	3.39E-08	8.99E-08	1.36E-14	0.	2.88E-04
60	4.80	6.73E-05	0.	4.25E-05	2.14E-04	0.	3.42E-08	9.06E-08	1.44E-14	0.	3.24E-04
61	4.70	6.79E-05	0.	3.49E-05	9.98E-05	0.	3.47E-08	9.13E-08	1.54E-14	0.	2.03E-04
62	4.60	7.18E-05	0.	3.17E-05	1.20E-04	0.	3.49E-08	9.21E-08	1.64E-14	0.	2.24E-04
63	4.50	6.00E-05	0.	2.28E-05	4.98E-05	0.	3.51E-08	9.28E-08	1.75E-14	0.	1.33E-04
64	4.40	5.02E-05	0.	1.99E-05	5.28E-05	0.	3.54E-08	9.36E-08	1.87E-14	0.	1.23E-04
65	4.30	3.77E-05	0.	1.52E-05	1.77E-05	0.	3.58E-08	9.43E-08	2.01E-14	0.	7.08E-05
66	4.20	2.94E-05	0.	1.39E-05	1.95E-05	0.	3.62E-08	9.51E-08	2.16E-14	0.	6.29E-05
67	4.10	2.33E-05	0.	1.05E-05	4.77E-06	0.	3.67E-08	9.54E-08	2.32E-14	0.	3.87E-05
68	4.00	1.73E-05	0.	8.59E-06	2.82E-06	0.	3.70E-08	9.60E-08	2.49E-14	0.	2.88E-05
69	3.90	1.13E-05	0.	5.71E-06	1.78E-06	0.	3.73E-08	9.54E-08	2.69E-14	0.	1.89E-05
70	3.80	1.12E-05	0.	5.78E-06	0.	0.	3.77E-08	9.51E-08	2.91E-14	0.	1.71E-05
71	3.70	7.03E-06	0.	3.15E-06	0.	0.	3.82E-08	9.36E-08	3.15E-14	0.	1.03E-05
72	3.60	5.26E-06	0.	3.55E-06	0.	0.	3.87E-08	8.76E-08	3.42E-14	0.	8.94E-06
73	3.50	3.98E-06	0.	1.75E-06	0.	0.	3.92E-08	8.02E-08	3.72E-14	0.	5.84E-06
74	3.40	2.73E-06	0.	1.94E-06	0.	0.	3.97E-08	4.63E-08	4.06E-14	0.	4.75E-06
75	3.30	1.87E-06	0.	1.01E-06	0.	0.	4.00E-08	4.63E-08	4.44E-14	0.	2.97E-06
76	3.20	1.24E-06	0.	9.77E-07	0.	0.	4.03E-08	4.64E-08	4.88E-14	0.	2.30E-06
77	3.10	9.28E-07	0.	6.53E-07	0.	0.	4.03E-08	4.65E-08	5.36E-14	0.	1.67E-06
78	3.00	6.37E-07	0.	4.83E-07	0.	0.	3.94E-08	4.66E-08	5.92E-14	0.	1.21E-06
79	2.90	4.00E-07	0.	2.31E-07	0.	0.	3.93E-08	4.67E-08	6.55E-14	0.	7.17E-07
80	2.80	3.39E-07	0.	1.12E-11	2.83E-08	0.	3.86E-08	4.68E-08	7.28E-14	0.	5.18E-07
81	2.70	1.43E-07	0.	3.54E-12	2.71E-08	0.	3.79E-08	4.68E-08	8.12E-14	0.	2.55E-07
82	2.60	3.89E-08	0.	5.51E-13	6.75E-09	0.	3.69E-08	4.68E-08	9.10E-14	0.	1.29E-07
83	2.50	2.14E-09	0.	9.49E-14	1.12E-09	0.	3.54E-08	4.68E-08	1.02E-13	0.	8.55E-08
84	2.40	0.	1.38E-10	2.71E-13	8.94E-11	0.	3.39E-08	4.68E-08	1.16E-13	0.	6.10E-08
85	2.30	0.	2.09E-09	0.	0.	0.	3.18E-08	4.64E-08	1.31E-13	0.	8.03E-08
86	2.20	0.	2.49E-09	0.	0.	0.	2.96E-08	4.62E-08	1.50E-13	0.	7.03E-08
87	2.10	0.	9.72E-09	0.	0.	0.	2.72E-08	4.60E-08	1.73E-13	0.	6.30E-08
88	2.00	0.	8.34E-09	0.	0.	0.	2.43E-08	4.46E-08	2.00E-13	0.	7.72E-08
89	1.90	0.	5.17E-09	0.	0.	0.	2.17E-08	4.29E-08	2.33E-13	0.	1.16E-07
90	1.80	0.	6.33E-08	0.	0.	0.	1.80E-08	4.10E-08	2.75E-13	0.	1.22E-07
91	1.70	0.	5.55E-08	0.	0.	0.	1.46E-08	3.86E-08	3.26E-13	0.	1.09E-07
92	1.60	0.	4.64E-08	0.	0.	0.	1.16E-08	3.27E-08	3.91E-13	0.	9.07E-08
93	1.50	0.	4.74E-08	0.	0.	0.	8.81E-09	1.40E-08	4.75E-13	0.	7.11E-08
94	1.40	0.	8.12E-08	0.	0.	0.	6.56E-09	0.	5.85E-13	0.	6.78E-08
95	1.30	0.	3.69E-08	0.	0.	0.	4.36E-09	0.	7.31E-13	0.	4.12E-08
96	1.20	0.	6.47E-08	0.	0.	0.	2.78E-09	0.	9.30E-13	0.	6.75E-08
97	1.10	0.	2.80E-08	0.	0.	0.	1.67E-09	0.	1.21E-12	0.	3.54E-08
98	1.00	0.	3.44E-08	0.	0.	0.	1.30E-08	8.33E-10	1.61E-12	0.	4.12E-08
99	0.90	0.	2.01E-08	0.	0.	0.	4.71E-08	4.15E-10	2.22E-12	0.	6.76E-08
100	0.80	0.	8.61E-09	0.	0.	0.	1.80E-07	0.	3.17E-12	0.	1.89E-07
101	0.70	0.	2.53E-09	0.	0.	0.	2.30E-07	0.	4.74E-12	0.	2.32E-07
102	0.60	0.	6.44E-12	0.	0.	0.	5.16E-07	0.	7.56E-12	0.	5.16E-07





# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		4000.		DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR	
PHOTON O2 S-R	ENERGY BANDS	1ST POS.	2ND POS.	N2	N2*	BETA	GAMMA	VIB-ROT	NO	2	PHOTO-DET	0-	0
52	5.60 4.14E-14	0.	0.	0.	0.	2.59E-06	2.93E-05	0.	0.	1.73E-09	3.13E-16	0.	0.
53	5.50 0.	0.	0.	0.	0.	3.71E-06	4.33E-05	0.	0.	1.74E-09	3.31E-16	0.	0.
54	5.40 0.	0.	0.	0.	0.	2.60E-06	1.04E-05	0.	0.	1.75E-09	3.49E-16	0.	0.
55	5.30 0.	0.	0.	0.	0.	2.65E-06	3.11E-05	0.	0.	1.76E-09	3.69E-16	0.	0.
56	5.20 0.	0.	0.	0.	0.	2.44E-06	1.02E-05	0.	0.	1.70E-09	3.91E-16	0.	0.
57	5.10 0.	0.	0.	0.	0.	2.05E-06	1.34E-05	0.	1.26E-10	1.79E-09	4.15E-16	0.	0.
58	5.00 3.13E-07	0.	0.	0.	0.	1.49E-06	1.22E-05	0.	1.27E-10	1.81E-09	4.40E-16	0.	0.
59	4.90 5.72E-07	0.	0.	0.	0.	1.44E-06	6.84E-06	0.	1.29E-10	1.84E-09	4.68E-16	0.	0.
60	4.80 7.98E-07	0.	0.	0.	0.	1.47E-06	7.39E-06	0.	1.30E-10	1.85E-09	4.90E-16	0.	0.
61	4.70 8.05E-07	0.	0.	0.	0.	1.21E-06	3.44E-06	0.	1.31E-10	1.87E-09	5.06E-16	0.	0.
62	4.60 8.51E-07	0.	0.	0.	0.	1.09E-06	4.15E-06	0.	1.32E-10	1.88E-09	5.04E-16	0.	0.
63	4.50 7.11E-07	0.	0.	0.	0.	6.87E-07	1.02E-06	0.	1.33E-10	1.93E-09	6.40E-16	0.	0.
64	4.40 5.95E-07	0.	0.	0.	0.	5.25E-07	6.11E-07	0.	1.34E-10	1.91E-09	6.93E-16	0.	0.
65	4.30 4.47E-07	0.	0.	0.	0.	4.79E-07	6.71E-07	0.	1.36E-10	1.93E-09	7.43E-16	0.	0.
66	4.20 3.48E-07	0.	0.	0.	0.	3.63E-07	1.65E-07	0.	1.38E-10	1.93E-09	7.99E-16	0.	0.
67	4.10 2.76E-07	0.	0.	0.	0.	2.96E-07	9.72E-08	0.	1.39E-10	1.94E-09	8.60E-16	0.	0.
68	4.00 2.05E-07	0.	0.	0.	0.	1.97E-07	6.14E-08	0.	1.40E-10	1.93E-09	9.28E-16	0.	0.
69	3.90 1.34E-07	0.	0.	0.	0.	1.97E-07	0.	0.	1.42E-10	1.93E-09	1.00E-15	0.	0.
70	3.80 1.32E-07	0.	0.	0.	0.	1.09E-07	0.	0.	1.43E-10	1.90E-09	1.09E-15	0.	0.
71	3.70 8.33E-08	0.	0.	0.	0.	1.45E-10	1.70E-09	0.	1.45E-10	1.70E-09	1.18E-15	0.	0.
72	3.60 6.24E-08	0.	0.	0.	0.	1.47E-10	1.62E-09	0.	1.47E-10	1.62E-09	1.28E-15	0.	0.
73	3.50 4.71E-08	0.	0.	0.	0.	1.49E-10	1.56E-09	0.	1.49E-10	1.56E-09	1.40E-15	0.	0.
74	3.40 3.23E-08	0.	0.	0.	0.	1.50E-10	1.50E-09	0.	1.50E-10	1.50E-09	1.53E-15	0.	0.
75	3.30 2.22E-08	0.	0.	0.	0.	1.51E-10	1.41E-09	0.	1.51E-10	1.41E-09	1.68E-15	0.	0.
76	3.20 1.47E-08	0.	0.	0.	0.	1.51E-10	1.37E-09	0.	1.51E-10	1.37E-09	1.85E-15	0.	0.
77	3.10 1.0E-08	0.	0.	0.	0.	1.50E-10	1.29E-09	0.	1.50E-10	1.29E-09	2.04E-15	0.	0.
78	3.00 5E-09	0.	0.	0.	0.	1.48E-10	1.27E-09	0.	1.48E-10	1.27E-09	2.26E-15	0.	0.
79	2.90 4.4E-09	0.	0.	0.	0.	1.45E-10	1.22E-09	0.	1.45E-10	1.22E-09	2.51E-15	0.	0.
80	2.80 4.02E-09	0.	0.	0.	0.	1.42E-10	1.19E-09	0.	1.42E-10	1.19E-09	2.80E-15	0.	0.
81	2.70 1.69E-09	0.	0.	0.	0.	1.39E-10	1.14E-09	0.	1.39E-10	1.14E-09	3.14E-15	0.	0.
82	2.60 4.61E-10	0.	0.	0.	0.	1.33E-10	1.07E-09	0.	1.33E-10	1.07E-09	3.53E-15	0.	0.
83	2.50 2.54E-11	0.	0.	0.	0.	1.28E-10	9.40E-10	0.	1.28E-10	9.40E-10	3.99E-15	0.	0.
84	2.40 0.	0.	0.	0.	0.	1.19E-10	8.41E-10	0.	1.19E-10	8.41E-10	4.53E-15	0.	0.
85	2.30 0.	0.	0.	0.	0.	1.11E-10	7.37E-10	0.	1.11E-10	7.37E-10	5.18E-15	0.	0.
86	2.20 0.	0.	0.	0.	0.	1.02E-10	6.33E-10	0.	1.02E-10	6.33E-10	5.96E-15	0.	0.
87	2.10 0.	0.	0.	0.	0.	9.14E-11	5.33E-10	0.	9.14E-11	5.33E-10	6.90E-15	0.	0.
88	2.00 0.	0.	0.	0.	0.	8.17E-11	4.69E-10	0.	8.17E-11	4.69E-10	8.05E-15	0.	0.
89	1.90 0.	0.	0.	0.	0.	7.40E-11	4.31E-10	0.	7.40E-11	4.31E-10	9.47E-15	0.	0.
90	1.80 0.	0.	0.	0.	0.	6.70E-11	4.03E-10	0.	6.70E-11	4.03E-10	1.13E-14	0.	0.
91	1.70 0.	0.	0.	0.	0.	6.13E-11	3.82E-10	0.	6.13E-11	3.82E-10	1.35E-14	0.	0.
92	1.60 0.	0.	0.	0.	0.	5.66E-11	3.66E-10	0.	5.66E-11	3.66E-10	1.64E-14	0.	0.
93	1.50 0.	0.	0.	0.	0.	5.20E-11	3.50E-10	0.	5.20E-11	3.50E-10	2.02E-14	0.	0.
94	1.40 0.	0.	0.	0.	0.	4.77E-11	3.31E-10	0.	4.77E-11	3.31E-10	2.52E-14	0.	0.
95	1.30 0.	0.	0.	0.	0.	4.31E-11	3.15E-10	0.	4.31E-11	3.15E-10	3.21E-14	0.	0.
96	1.20 0.	0.	0.	0.	0.	3.91E-11	3.01E-10	0.	3.91E-11	3.01E-10	4.17E-14	0.	0.
97	1.10 0.	0.	0.	0.	0.	3.58E-11	2.89E-10	0.	3.58E-11	2.89E-10	5.57E-14	0.	0.
98	1.00 0.	0.	0.	0.	0.	3.28E-11	2.79E-10	0.	3.28E-11	2.79E-10	7.65E-14	0.	0.
99	0.90 0.	0.	0.	0.	0.	3.02E-11	2.70E-10	0.	3.02E-11	2.70E-10	1.09E-13	0.	0.
100	0.80 0.	0.	0.	0.	0.	2.82E-11	2.62E-10	0.	2.82E-11	2.62E-10	1.63E-13	0.	0.
101	0.70 0.	0.	0.	0.	0.	2.65E-11	2.55E-10	0.	2.65E-11	2.55E-10	2.61E-13	0.	0.
102	0.60 0.	0.	0.	0.	0.	2.52E-11	2.49E-10	0.	2.52E-11	2.49E-10	4.17E-13	0.	0.

TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		4000.		DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)		FREF-FREE (IONS)		P.E.		P.E.		TOTAL AIR	
PHOTON 02 S-R	N2	1ST POS.	2ND POS.	N2	N2+	BETA	Q-XMA	NO	VIB-ROT	NO	PHOTO-DET (IONS)	N	0
ENERGY BANDS	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST NEG.								
52	5.60	4.30E-16	0.	0.	0.	8.28E-08	9.37E-07	0.	0.	3.17E-11	1.00E-17	0.	0.
53	5.50	0.	0.	0.	0.	1.19E-07	1.38E-06	0.	0.	3.18E-11	1.06E-17	0.	0.
54	5.40	0.	0.	0.	0.	8.33E-08	3.33E-07	0.	0.	3.20E-11	1.12E-17	0.	0.
55	5.30	0.	0.	0.	0.	8.47E-08	9.96E-07	0.	0.	3.22E-11	1.18E-17	0.	0.
56	5.20	0.	0.	0.	0.	7.82E-08	3.27E-07	0.	0.	3.24E-11	1.25E-17	0.	0.
57	5.10	0.	0.	0.	0.	6.55E-08	4.29E-07	0.	0.	3.27E-11	1.33E-17	0.	0.
58	5.00	3.25E-09	0.	0.	0.	4.77E-08	3.91E-07	0.	0.	3.29E-11	1.41E-17	0.	0.
59	4.90	5.94E-09	0.	0.	0.	4.59E-08	2.19E-07	0.	0.	3.32E-11	1.50E-17	0.	0.
60	4.80	8.28E-09	0.	0.	0.	4.70E-08	2.36E-07	0.	0.	3.35E-11	1.59E-17	0.	0.
61	4.70	8.36E-09	0.	0.	0.	3.86E-08	1.10E-07	0.	0.	3.38E-11	1.70E-17	0.	0.
62	4.60	8.84E-09	0.	0.	0.	3.50E-08	1.33E-07	0.	0.	3.40E-11	1.81E-17	0.	0.
63	4.50	7.39E-09	0.	7.41E-13	0.	2.52E-08	5.50E-08	0.	0.	3.43E-11	1.94E-17	0.	0.
64	4.40	6.18E-09	0.	5.36E-12	0.	2.20E-08	5.83E-08	0.	0.	3.46E-11	2.07E-17	0.	0.
65	4.30	4.64E-09	0.	4.76E-12	0.	1.68E-08	1.95E-08	0.	0.	3.49E-11	2.22E-17	0.	0.
66	4.20	3.62E-09	0.	4.69E-11	0.	1.53E-08	2.15E-08	0.	0.	3.51E-11	2.38E-17	0.	0.
67	4.10	2.86E-09	0.	4.34E-12	0.	1.16E-08	5.27E-09	0.	0.	3.53E-11	2.56E-17	0.	0.
68	4.00	2.13E-09	0.	5.96E-11	0.	9.48E-09	3.11E-09	0.	0.	3.54E-11	2.76E-17	0.	0.
69	3.90	1.39E-09	0.	3.59E-11	6.50E-14	6.30E-09	1.96E-09	0.	0.	3.53E-11	2.98E-17	0.	0.
70	3.80	1.37E-09	0.	2.12E-11	2.65E-12	6.38E-09	0.	0.	0.	3.51E-11	3.22E-17	0.	0.
71	3.70	8.65E-10	0.	7.04E-11	4.52E-13	3.47E-09	0.	0.	0.	3.46E-11	3.48E-17	0.	0.
72	3.60	6.48E-10	0.	1.07E-11	1.05E-12	3.91E-09	0.	0.	0.	3.24E-11	3.78E-17	0.	0.
73	3.50	4.89E-10	0.	3.62E-11	1.36E-11	1.93E-09	0.	0.	0.	2.97E-11	4.12E-17	0.	0.
74	3.40	3.36E-10	0.	6.08E-12	8.56E-14	2.14E-09	0.	0.	0.	1.71E-11	4.49E-17	0.	0.
75	3.30	2.30E-10	0.	1.17E-11	2.02E-12	1.12E-09	0.	0.	0.	1.71E-11	4.91E-17	0.	0.
76	3.20	1.53E-10	0.	2.78E-12	1.92E-11	1.08E-09	0.	0.	0.	1.72E-11	5.39E-17	0.	0.
77	3.10	1.14E-10	0.	3.08E-12	1.49E-13	7.21E-10	0.	0.	0.	1.72E-11	5.93E-17	0.	0.
78	3.00	7.84E-11	0.	9.01E-13	2.18E-12	5.34E-10	0.	0.	0.	1.72E-11	6.54E-17	0.	0.
79	2.90	4.92E-11	0.	6.18E-13	3.34E-12	2.55E-10	0.	0.	0.	1.73E-11	7.25E-17	0.	0.
80	2.80	4.18E-11	0.	1.96E-13	1.57E-13	1.03E-10	0.	0.	0.	1.73E-11	8.09E-17	0.	0.
81	2.70	1.76E-11	0.	1.01E-13	1.05E-12	2.99E-11	0.	0.	0.	1.73E-11	8.98E-17	0.	0.
82	2.60	4.79E-12	0.	4.20E-14	1.64E-13	7.46E-12	0.	0.	0.	1.73E-11	1.01E-16	0.	0.
83	2.50	2.64E-13	0.	8.82E-15	2.82E-14	1.24E-12	0.	0.	0.	1.73E-11	1.13E-16	0.	0.
84	2.40	0.	1.36E-12	0.	8.05E-14	9.87E-14	0.	0.	0.	1.73E-11	1.28E-16	0.	0.
85	2.30	0.	2.07E-11	0.	0.	0.	0.	0.	0.	1.72E-11	1.45E-16	0.	0.
86	2.20	0.	2.47E-11	0.	0.	0.	0.	0.	0.	1.71E-11	1.66E-16	0.	0.
87	2.10	0.	9.62E-11	0.	0.	0.	0.	0.	0.	1.70E-11	1.91E-16	0.	0.
88	2.00	0.	8.26E-11	0.	0.	0.	0.	0.	0.	1.65E-11	2.21E-16	0.	0.
89	1.90	0.	5.12E-10	0.	0.	0.	0.	0.	0.	1.58E-11	2.58E-16	0.	0.
90	1.80	0.	6.27E-10	0.	0.	0.	0.	0.	0.	1.52E-11	3.04E-16	0.	0.
91	1.70	0.	5.50E-10	0.	0.	0.	0.	0.	0.	1.43E-11	3.61E-16	0.	0.
92	1.60	0.	4.59E-10	0.	0.	0.	0.	0.	0.	1.21E-11	4.33E-16	0.	0.
93	1.50	0.	4.70E-10	0.	0.	0.	0.	0.	0.	1.08E-11	5.26E-16	0.	0.
94	1.40	0.	8.05E-10	0.	0.	0.	0.	0.	0.	0.	6.47E-16	0.	0.
95	1.30	0.	3.65E-10	0.	0.	0.	0.	0.	0.	0.	8.08E-16	0.	0.
96	1.20	0.	6.41E-10	0.	0.	0.	0.	0.	0.	0.	1.03E-15	0.	0.
97	1.10	0.	2.77E-10	0.	0.	0.	0.	0.	0.	0.	1.34E-15	0.	0.
98	1.00	0.	3.41E-10	0.	0.	0.	0.	0.	0.	0.	1.78E-15	0.	0.
99	0.90	0.	1.99E-10	0.	0.	0.	0.	0.	0.	0.	2.45E-15	0.	0.
100	0.80	0.	8.53E-11	0.	0.	0.	0.	0.	0.	0.	3.50E-15	0.	0.
101	0.70	0.	2.51E-11	0.	0.	0.	0.	0.	0.	0.	5.24E-15	0.	0.
102	0.60	0.	6.42E-14	0.	0.	0.	0.	0.	0.	0.	8.36E-15	0.	0.

TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)
4000.	1.295E-08	(1.0E-05 NORMAL)

PHOTON ENERGY E.V.	02 S-R RANDS	02 S-R CONT.	N2 B-W NO. 1	NO BETA	NO GAMMA	NO 2	PHOTO-BET (IONS)	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIN
1 10.70 0.		0.	1.94E-06	0.		0.	5.39E-13	4.43E-20	0.	0.	1.94E-06
2 10.60 0.		0.	1.37E-06	0.		0.	5.86E-13	4.59E-20	0.	0.	1.37E-06
3 10.50 0.		0.	1.17E-06	0.		0.	5.86E-13	4.69E-20	0.	0.	1.17E-06
4 10.40 0.		0.	9.07E-07	0.		0.	5.27E-13	4.82E-20	0.	0.	9.07E-07
5 10.30 0.		0.	6.08E-07	0.		0.	5.28E-13	4.97E-20	0.	0.	6.08E-07
6 10.20 0.		0.	5.34E-07	0.		0.	5.28E-13	5.11E-20	0.	0.	5.34E-07
7 10.10 0.		0.	4.26E-07	0.		0.	5.29E-13	5.27E-20	0.	0.	4.26E-07
8 10.00 0.		0.	2.62E-07	0.		0.	5.30E-13	5.43E-20	0.	0.	2.62E-07
9 9.90 0.		0.	2.54E-07	0.		0.	5.31E-13	5.60E-20	0.	0.	2.54E-07
10 9.80 0.		0.	1.86E-07	0.		0.	5.32E-13	5.77E-20	0.	0.	1.86E-07
11 9.70 0.		0.	1.19E-07	0.		0.	5.33E-13	5.95E-20	0.	0.	1.19E-07
12 9.60 0.		0.	1.23E-07	0.		0.	5.34E-13	6.14E-20	0.	0.	1.23E-07
13 9.50 0.	1.02E-08		7.21E-08	0.		0.	5.35E-13	6.34E-20	0.	0.	8.23E-08
14 9.40 0.	1.15E-08		5.52E-08	0.		0.	5.37E-13	6.59E-20	0.	0.	6.67E-08
15 9.30 0.	1.28E-08		5.21E-08	0.		0.	5.39E-13	6.76E-20	0.	0.	6.49E-08
16 9.20 0.	1.41E-08		2.65E-08	0.		0.	5.40E-13	6.98E-20	0.	0.	4.07E-08
17 9.10 0.	1.74E-08		2.94E-08	0.		0.	5.42E-13	7.22E-20	0.	0.	4.68E-08
18 9.00 0.	2.11E-08		1.85E-08	0.		0.	5.44E-13	7.46E-20	0.	0.	3.95E-08
19 8.90 0.	2.47E-08		1.36E-08	0.		0.	5.46E-13	7.72E-20	0.	0.	3.83E-08
20 8.80 0.	2.57E-08		1.17E-08	0.		0.	5.48E-13	7.98E-20	0.	0.	3.74E-08
21 8.70 0.	2.45E-08		6.80E-09	0.		0.	5.50E-13	8.26E-20	0.	0.	3.13E-08
22 8.60 0.	2.34E-08		6.94E-09	0.		0.	5.52E-13	8.56E-20	0.	0.	3.03E-08
23 8.50 0.	2.22E-08		4.00E-09	0.		0.	5.54E-13	8.86E-20	0.	0.	2.62E-08
24 8.40 0.	2.12E-08		3.71E-09	0.		0.	5.57E-13	9.18E-20	0.	0.	2.49E-08
25 8.30 0.	2.02E-08		2.17E-09	0.		0.	5.60E-13	9.52E-20	0.	0.	2.24E-08
26 8.20 0.	1.92E-08		1.95E-09	0.		0.	5.63E-13	9.88E-20	0.	0.	2.11E-08
27 8.10 0.	1.81E-08		1.21E-09	0.		0.	5.66E-13	1.02E-19	0.	0.	1.93E-08
28 8.00 0.	1.70E-08		1.05E-09	0.		0.	5.69E-13	1.06E-19	0.	0.	1.80E-08
29 7.90 0.	1.59E-08		6.61E-10	0.		0.	5.72E-13	1.10E-19	0.	0.	1.66E-08
30 7.80 0.	1.48E-08		5.86E-10	0.		0.	5.75E-13	1.15E-19	0.	0.	1.54E-08
31 7.70 0.	1.37E-08		3.84E-10	0.		0.	5.77E-13	1.19E-19	0.	0.	1.41E-08
32 7.60 0.	1.26E-08		2.94E-10	0.	1.08E-12	0.	5.80E-13	1.24E-19	0.	0.	1.29E-08
33 7.50 0.	1.15E-08		2.08E-10	0.	2.54E-11	0.	5.83E-13	1.29E-19	0.	0.	1.18E-08
34 7.40 0.	1.04E-08		1.49E-10	0.	5.48E-11	0.	5.87E-13	1.35E-19	0.	0.	1.06E-08
35 7.30 0.	9.36E-09		1.10E-10	0.	2.87E-10	0.	5.90E-13	1.40E-19	0.	0.	9.76E-09
36 7.20 0.	8.36E-09		7.70E-11	0.	1.71E-09	0.	5.93E-13	1.46E-19	0.	0.	1.01E-08
37 7.10 0.	7.34E-09		5.82E-11	0.	1.04E-09	0.	5.98E-13	1.52E-19	0.	0.	8.46E-09
38 7.00 0.	6.34E-09		4.11E-11	0.	9.91E-09	0.	6.03E-13	1.59E-19	0.	0.	9.98E-09
39 6.90 0.	5.39E-09		2.95E-11	0.	7.18E-09	0.	6.08E-13	1.66E-19	0.	0.	7.27E-09
40 6.80 0.	4.35E-09		2.17E-11	0.	1.12E-09	0.	6.12E-13	1.74E-19	0.	0.	1.12E-08
41 6.70 0.	3.67E-09		1.46E-11	0.	3.44E-09	0.	6.17E-13	1.82E-19	0.	0.	3.45E-08
42 6.60 0.	3.14E-09		1.00E-11	0.	1.25E-08	0.	6.22E-13	1.90E-19	0.	0.	1.25E-08
43 6.50 0.	2.61E-09		5.75E-12	0.	2.07E-08	0.	6.27E-13	1.99E-19	0.	0.	2.07E-08
44 6.40 0.	2.08E-09		2.45E-12	6.88E-10	5.77E-08	0.	6.32E-13	2.08E-19	0.	0.	5.84E-08
45 6.30 0.	1.41E-09		8.66E-13	2.36E-09	1.78E-08	0.	6.37E-13	2.18E-19	0.	0.	2.02E-08
46 6.20 0.	5.06E-10		2.82E-13	2.62E-09	2.20E-08	0.	6.42E-13	2.29E-19	0.	0.	2.46E-08
47 6.10 0.	1.77E-10		8.31E-14	6.12E-09	8.02E-08	0.	6.46E-13	2.41E-19	0.	0.	8.63E-08
48 6.00 0.	5.94E-11		1.55E-14	3.63E-09	1.22E-08	0.	6.51E-13	2.53E-19	0.	0.	1.59E-08
49 5.90 0.	1.23E-11		1.05E-15	4.83E-09	1.64E-08	0.	6.51E-13	2.66E-19	0.	0.	2.12E-08
50 5.80 0.	1.47E-12		2.37E-17	5.81E-09	1.86E-08	0.	6.42E-13	2.80E-19	0.	0.	2.44E-08
51 5.70 0.	1.06E-13		0.	5.05E-09	8.97E-09	0.	6.03E-13	2.95E-19	0.	0.	1.40E-08

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				4000.				DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)							
PHOTON 02 S-R		N2		N2		N2		N2		N2		N2		N2	
ENERGY RANDS		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT		NO	
52	5.60 4.34E-18	0.	0.	0.	0.	2.56E-09	2.90E-08	0.	0.	5.60E-13	3.11E-19	0.	0.	3.16E-08	
53	5.50 0.	0.	0.	0.	0.	3.67E-09	4.28E-08	0.	0.	5.63E-13	3.28E-19	0.	0.	4.65E-08	
54	5.40 0.	0.	0.	0.	0.	2.50E-09	1.03E-08	0.	0.	5.66E-13	3.47E-19	0.	0.	1.29E-08	
55	5.30 0.	0.	0.	0.	0.	2.62E-09	3.08E-08	0.	0.	5.70E-13	3.67E-19	0.	0.	3.34E-08	
56	5.20 0.	0.	0.	0.	0.	2.42E-09	1.01E-08	0.	0.	5.74E-13	3.89E-19	0.	0.	1.25E-08	
57	5.10 0.	0.	0.	0.	0.	2.03E-09	1.33E-08	0.	1.28E-15	5.78E-13	4.12E-19	0.	0.	1.53E-08	
58	5.00 3.28E-11	0.	0.	0.	0.	1.48E-09	1.21E-08	0.	1.29E-15	5.83E-13	4.37E-19	0.	0.	1.36E-08	
59	4.90 6.00E-11	0.	0.	0.	0.	1.42E-09	6.77E-09	0.	1.30E-15	5.88E-13	4.65E-19	0.	0.	8.25E-09	
60	4.80 8.37E-11	0.	0.	0.	0.	1.45E-09	7.31E-09	0.	1.31E-15	5.93E-13	4.94E-19	0.	0.	8.85E-09	
61	4.70 8.45E-11	0.	0.	0.	0.	1.19E-09	3.41E-09	0.	1.32E-15	5.98E-13	5.27E-19	0.	0.	4.69E-09	
62	4.60 8.93E-11	0.	0.	0.	0.	1.08E-09	4.11E-09	0.	1.33E-15	6.03E-13	5.62E-19	0.	0.	5.28E-09	
63	4.50 7.47E-11	0.	7.02E-14	0.	0.	7.79E-10	1.70E-09	0.	1.34E-15	6.08E-13	6.00E-19	0.	0.	2.56E-09	
64	4.40 6.24E-11	0.	5.07E-13	0.	0.	6.80E-10	1.80E-09	0.	1.35E-15	6.12E-13	6.42E-19	0.	0.	2.55E-09	
65	4.30 4.69E-11	0.	4.51E-13	0.	0.	5.20E-10	6.04E-10	0.	1.36E-15	6.17E-13	6.88E-19	0.	0.	1.17E-09	
66	4.20 3.66E-11	0.	4.44E-12	0.	0.	4.74E-10	6.64E-10	0.	1.38E-15	6.22E-13	7.39E-19	0.	0.	1.18E-09	
67	4.10 2.89E-11	0.	4.11E-13	0.	0.	3.59E-10	1.63E-10	0.	1.40E-15	6.25E-13	7.94E-19	0.	0.	5.52E-10	
68	4.00 2.15E-11	0.	5.64E-12	0.	0.	2.93E-10	9.62E-11	0.	1.41E-15	6.27E-13	8.55E-19	0.	0.	4.17E-10	
69	3.90 1.41E-11	0.	3.40E-12	3.50E-14	0.	1.95E-10	6.08E-11	0.	1.42E-15	6.29E-13	9.22E-19	0.	0.	2.74E-10	
70	3.80 1.39E-11	0.	2.01E-12	1.43E-12	0.	1.97E-10	0.	0.	1.44E-15	6.22E-13	9.97E-19	0.	0.	2.15E-10	
71	3.70 8.74E-12	0.	6.67E-12	2.43E-13	0.	1.07E-10	0.	0.	1.46E-15	6.12E-13	1.08E-18	0.	0.	1.24E-10	
72	3.60 6.54E-12	0.	1.01E-12	5.66E-13	0.	1.21E-10	0.	0.	1.47E-15	5.74E-13	1.17E-18	0.	0.	1.30E-10	
73	3.50 4.94E-12	0.	3.42E-12	7.32E-12	5.96E-11	0.	0.	0.	1.49E-15	5.25E-13	1.28E-18	0.	0.	7.58E-11	
74	3.40 3.39E-12	0.	5.76E-13	4.60E-14	6.63E-11	0.	0.	0.	1.51E-15	3.03E-13	1.39E-18	0.	0.	7.06E-11	
75	3.30 2.33E-12	0.	1.11E-12	1.09E-12	3.46E-11	0.	0.	0.	1.52E-15	3.03E-13	1.52E-18	0.	0.	3.95E-11	
76	3.20 1.54E-12	0.	2.63E-13	1.03E-11	3.34E-11	0.	0.	0.	1.53E-15	3.04E-13	1.67E-18	0.	0.	4.58E-11	
77	3.10 1.15E-12	0.	2.92E-13	8.02E-14	2.23E-11	0.	0.	0.	1.54E-15	3.04E-13	1.84E-18	0.	0.	2.41E-11	
78	3.00 7.92E-13	0.	8.53E-14	1.17E-12	1.65E-11	0.	0.	0.	1.52E-15	3.05E-13	2.03E-18	0.	0.	1.89E-11	
79	2.90 4.97E-13	0.	5.86E-14	1.80E-12	7.88E-12	0.	0.	0.	1.50E-15	3.06E-13	2.25E-18	0.	0.	1.05E-11	
80	2.80 4.22E-13	0.	1.86E-14	8.43E-14	3.19E-12	0.	0.	0.	1.47E-15	3.06E-13	2.50E-18	0.	0.	4.02E-12	
81	2.70 1.78E-13	0.	9.60E-15	5.66E-13	9.24E-13	0.	0.	0.	1.44E-15	3.06E-13	2.78E-18	0.	0.	1.99E-12	
82	2.60 4.84E-14	0.	3.98E-15	8.80E-14	2.31E-13	0.	0.	0.	1.41E-15	3.06E-13	3.12E-18	0.	0.	6.79E-13	
83	2.50 2.67E-15	0.	8.35E-16	1.52E-14	3.83E-14	0.	0.	0.	1.35E-15	3.06E-13	3.51E-18	0.	0.	3.64E-13	
84	2.40 0.	1.29E-13	0.	4.33E-14	3.05E-15	0.	0.	0.	1.29E-15	3.06E-13	3.96E-18	0.	0.	4.83E-13	
85	2.30 0.	1.96E-12	0.	0.	0.	0.	0.	0.	1.21E-15	3.04E-13	4.50E-18	0.	0.	2.26E-12	
86	2.20 0.	2.33E-12	0.	0.	0.	0.	0.	0.	1.13E-15	3.03E-13	5.15E-18	0.	0.	2.64E-12	
87	2.10 0.	9.11E-12	0.	0.	0.	0.	0.	0.	1.04E-15	3.01E-13	5.92E-18	0.	0.	9.42E-12	
88	2.00 0.	7.82E-12	0.	0.	0.	0.	0.	0.	9.27E-16	2.92E-13	6.86E-18	0.	0.	8.11E-12	
89	1.90 0.	4.85E-11	0.	0.	0.	0.	0.	0.	8.29E-16	2.80E-13	8.00E-18	0.	0.	4.88E-11	
90	1.80 0.	5.94E-11	0.	0.	0.	0.	0.	0.	6.88E-16	2.68E-13	9.41E-18	0.	0.	5.97E-11	
91	1.70 0.	5.21E-11	0.	0.	0.	0.	0.	0.	5.56E-16	2.53E-13	1.12E-17	0.	0.	5.23E-11	
92	1.60 0.	4.35E-11	0.	0.	0.	0.	0.	0.	4.44E-16	2.14E-13	1.34E-17	0.	0.	4.37E-11	
93	1.50 0.	4.45E-11	0.	0.	0.	0.	0.	0.	3.36E-16	9.72E-14	1.63E-17	0.	0.	4.46E-11	
94	1.40 0.	7.62E-11	0.	0.	0.	0.	0.	0.	2.50E-16	0.	2.00E-17	0.	0.	7.62E-11	
95	1.30 0.	3.46E-11	0.	0.	0.	0.	0.	0.	1.66E-16	0.	2.51E-17	0.	0.	3.46E-11	
96	1.20 0.	6.07E-11	0.	0.	0.	0.	0.	0.	1.06E-16	0.	3.19E-17	0.	0.	6.07E-11	
97	1.10 0.	2.62E-11	0.	0.	0.	0.	0.	0.	6.37E-17	0.	4.15E-17	0.	0.	2.64E-11	
98	1.00 0.	3.23E-11	0.	0.	0.	0.	0.	0.	4.44E-13	1.59E-17	5.53E-17	0.	0.	3.27E-11	
99	0.90 0.	1.88E-11	0.	0.	0.	0.	0.	0.	1.61E-12	0.	7.61E-17	0.	0.	2.04E-11	
100	0.80 0.	8.07E-12	0.	0.	0.	0.	0.	0.	6.16E-12	0.	1.08E-16	0.	0.	1.42E-11	
101	0.70 0.	2.38E-12	0.	0.	0.	0.	0.	0.	7.85E-12	0.	1.62E-16	0.	0.	1.02E-11	
102	0.60 0.	6.08E-15	0.	0.	0.	0.	0.	0.	1.76E-11	0.	2.59E-16	0.	0.	1.76E-11	

TEMPERATURE (DEGREES K) 400. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

64

TEMPERATURE (DEGREES K) 400. DENSITY (GM/CC) 1.293E-00 ( 1.0E-06 NORMAL)

TOTAL AIR

0.3

2.3.

REF

SECRET

3

1

**via**  
**NI**

NO  
GAM

**NO  
BETA**

N2+  
NEG

12 POS.

pos.

RS

**TON C  
RGY**

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52	5.60	4.35E-20	0.	0.	7.42E-11	8.40E-10	0.	0.	9.61E-15	9.13E-21	0.	0.	9.15E-10
53	5.50	0.	0.	0.	1.06E-10	1.24E-09	0.	0.	9.66E-15	9.64E-21	0.	0.	1.35E-09
54	5.40	0.	0.	0.	7.47F-11	2.99E-10	0.	0.	9.71E-15	1.02E-20	0.	0.	3.73E-10
55	5.30	0.	0.	0.	7.59E-11	8.93E-10	0.	0.	9.78E-15	1.08E-20	0.	0.	9.69E-10
56	5.20	0.	0.	0.	7.01E-11	2.93E-10	0.	0.	9.84E-15	1.14E-20	0.	0.	3.63F-10
57	5.10	0.	0.	0.	5.88E-11	3.84E-10	0.	0.	9.92E-15	1.21E-20	0.	0.	4.43F-10
58	5.00	3.29E-13	0.	0.	4.28E-11	3.51E-10	0.	0.	3.72E-18	1.21E-20	0.	0.	3.94E-10
59	4.90	6.02E-13	0.	0.	4.12E-11	1.96E-10	0.	0.	3.75E-18	1.20E-20	0.	0.	2.38E-10
60	4.80	8.39E-13	0.	0.	4.21E-11	2.12E-10	0.	0.	3.78E-18	1.36E-20	0.	0.	2.55E-10
61	4.70	8.47E-13	0.	0.	3.46E-11	5.88E-11	0.	0.	3.81E-18	1.45E-20	0.	0.	1.34E-10
62	4.60	8.96F-13	0.	0.	3.14F-11	1.19E-10	0.	0.	3.83E-18	1.55E-20	0.	0.	1.51F-10
63	4.50	7.49E-13	0.	5.88E-15	2.26E-11	4.93E-11	0.	0.	3.86E-18	1.65E-20	0.	0.	7.27E-11
64	4.40	6.26E-13	0.	4.25F-14	1.97E-11	5.23E-11	0.	0.	3.89E-18	1.76E-20	0.	0.	7.27E-11
65	4.30	4.70F-13	0.	3.78F-14	1.51F-11	1.75E-11	0.	0.	3.92E-18	1.88E-20	0.	0.	3.31F-11
66	4.20	3.67F-13	0.	3.72E-13	1.37E-11	1.93E-11	0.	0.	3.96E-18	2.02E-20	0.	0.	3.37F-11
67	4.10	2.90F-13	0.	3.45E-14	1.04E-11	4.73E-12	0.	0.	4.01E-18	2.17E-20	0.	0.	1.55F-11
68	4.00	2.16E-13	0.	4.72E-13	8.50E-12	2.79E-12	0.	0.	4.06E-18	2.33E-20	0.	0.	1.20F-11
69	3.90	1.41E-13	0.	2.85F-13	5.65E-12	1.76E-12	0.	0.	4.09E-18	2.51E-20	0.	0.	7.86F-12
70	3.80	1.39F-13	0.	1.68E-13	5.72E-12	0.	0.	4.12E-18	1.07E-14	2.71E-20	0.	0.	6.74E-12
71	3.70	8.77E-14	0.	5.59F-13	3.11E-12	0.	0.	4.17E-18	1.07E-14	2.93E-20	0.	0.	3.89F-12
72	3.60	6.56E-14	0.	8.45E-14	2.77E-13	3.51E-12	0.	0.	4.23E-18	3.17E-20	0.	0.	3.95E-12
73	3.50	4.96E-14	0.	2.87E-13	3.58E-12	1.73E-12	0.	0.	4.28E-18	3.44E-20	0.	0.	5.65E-12
74	3.40	3.40E-14	0.	4.82E-14	2.25E-12	1.92F-12	0.	0.	4.34E-18	3.75E-20	0.	0.	2.03F-12
75	3.30	2.33E-14	0.	9.29E-14	5.31E-13	1.00E-12	0.	0.	4.39E-18	4.09E-20	0.	0.	1.66F-12
76	3.20	1.55E-14	0.	2.20F-14	5.04E-12	9.67E-13	0.	0.	4.43E-18	4.47E-20	0.	0.	6.05E-12
77	3.10	1.16E-14	0.	2.44F-14	3.92E-12	6.46E-13	0.	0.	4.45E-18	4.90E-20	0.	0.	7.27E-13
78	3.00	7.94E-15	0.	7.14E-15	5.74E-13	4.78E-13	0.	0.	4.46E-18	5.39E-20	0.	0.	1.07E-12
79	2.90	4.98F-15	0.	4.90E-15	8.79E-13	2.28E-13	0.	0.	4.40E-18	5.95E-20	0.	0.	1.12F-12
80	2.80	4.23E-15	0.	1.55E-15	4.12E-14	9.24E-14	0.	0.	4.35E-18	6.59E-20	0.	0.	1.45E-13
81	2.70	1.78F-15	0.	8.04F-16	2.77E-13	2.68E-14	0.	0.	4.27E-18	7.32E-20	0		



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	M2 R-M NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DEY (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1	10.70 0.	0.	6.25E 00	0.	0.	0.	0.94E-03	1.02E-09 0.	0.	0.	6.26E 00
2	10.60 0.	0.	4.71E 00	0.	0.	0.	0.94E-03	1.04E-09 0.	0.	0.	4.72E 00
3	10.50 0.	0.	4.23E 00	0.	0.	0.	0.97E-03	1.71E-09 0.	0.	0.	4.24E 00
4	10.40 0.	0.	3.42E 00	0.	0.	0.	0.98E-03	1.76E-09 0.	0.	0.	3.43E 00
5	10.30 0.	0.	2.46E 00	0.	0.	0.	0.99E-03	1.81E-09 0.	0.	0.	2.47E 00
6	10.20 0.	0.	2.25E 00	0.	0.	0.	9.00E-03	1.87E-09 0.	0.	0.	2.26E 00
7	10.10 0.	0.	1.87E 00	0.	0.	0.	9.02E-03	1.92E-09 0.	0.	0.	1.88E 00
8	10.00 0.	0.	1.27E 00	0.	0.	0.	9.03E-03	1.98E-09 0.	0.	0.	1.28E 00
9	9.90 0.	0.	1.25E 00	0.	0.	0.	9.04E-03	2.04E-09 0.	0.	0.	1.25E 00
10	9.80 0.	0.	9.72E-01	0.	0.	0.	9.04E-03	2.11E-09 0.	0.	0.	9.81E-01
11	9.70 0.	0.	6.57E-01	0.	0.	0.	9.08E-03	2.17E-09 0.	0.	0.	6.66E-01
12	9.60 0.	0.	7.02E-01	0.	0.	0.	9.09E-03	2.24E-09 0.	0.	0.	7.11E-01
13	9.50 0.	5.98E 01	4.57E-01	0.	0.	0.	9.11E-03	2.32E-09 0.	0.	0.	6.02E 01
14	9.40 0.	6.56E 01	3.66E-01	0.	0.	0.	9.14E-03	2.39E-09 0.	0.	0.	6.60E 01
15	9.30 0.	7.14E 01	3.55E-01	0.	0.	0.	9.18E-03	2.47E-09 0.	0.	0.	7.19E 01
16	9.20 0.	7.72E 01	2.07E-01	0.	0.	0.	9.21E-03	2.55E-09 0.	0.	0.	7.74E 01
17	9.10 0.	9.53E 01	2.21E-01	0.	0.	0.	9.24E-03	2.64E-09 0.	0.	0.	9.55E 01
18	9.00 0.	1.14E 02	1.55E-01	0.	0.	0.	9.28E-03	2.73E-09 0.	0.	0.	1.16E 02
19	8.90 0.	1.36E 02	1.20E-01	0.	0.	0.	9.31E-03	2.82E-09 0.	0.	0.	1.36E 02
20	8.80 0.	1.42E 02	1.08E-01	0.	0.	0.	9.34E-03	2.92E-09 0.	0.	0.	1.42E 02
21	8.70 0.	1.35E 02	6.98E-02	0.	0.	0.	9.38E-03	3.02E-09 0.	0.	0.	1.35E 02
22	8.60 0.	1.29E 02	7.03E-02	0.	0.	0.	9.41E-03	3.13E-09 0.	0.	0.	1.29E 02
23	8.50 0.	1.23E 02	4.58E-02	0.	0.	0.	9.44E-03	3.24E-09 0.	0.	0.	1.23E 02
24	8.40 0.	1.18E 02	4.27E-02	0.	0.	0.	9.49E-03	3.36E-09 0.	0.	0.	1.18E 02
25	8.30 0.	1.13E 02	2.77E-02	0.	0.	0.	9.54E-03	3.48E-09 0.	0.	0.	1.13E 02
26	8.20 0.	1.08E 02	2.97E-02	0.	0.	0.	9.59E-03	3.61E-09 0.	0.	0.	1.08E 02
27	8.10 0.	1.03E 02	1.73E-02	0.	0.	0.	9.64E-03	3.75E-09 0.	0.	0.	1.03E 02
28	8.00 0.	9.84E 01	1.57E-02	0.	0.	0.	9.69E-03	3.89E-09 0.	0.	0.	9.85E 01
29	7.90 0.	9.30E 01	1.07E-02	0.	0.	0.	9.74E-03	4.04E-09 0.	0.	0.	9.30E 01
30	7.80 0.	8.75E 01	9.88E-03	0.	0.	0.	9.79E-03	4.20E-09 0.	0.	0.	8.75E 01
31	7.70 0.	8.20E 01	6.97E-03	0.	0.	0.	9.84E-03	4.36E-09 0.	0.	0.	8.20E 01
32	7.60 0.	7.64E 01	5.66E-03	0.	2.43E-04	0.	9.89E-03	4.54E-09 0.	0.	0.	7.64E 01
33	7.50 0.	7.09E 01	4.29E-03	0.	3.40E-03	0.	9.94E-03	4.72E-09 0.	0.	0.	7.09E 01
34	7.40 0.	6.51E 01	3.26E-03	0.	0.04E-03	0.	9.99E-03	4.92E-09 0.	0.	0.	6.51E 01
35	7.30 0.	5.93E 01	2.57E-03	0.	5.10E-02	0.	1.00E-02	5.12E-09 0.	0.	0.	5.93E 01
36	7.20 0.	5.34E 01	1.92E-03	0.	2.15E-01	0.	1.01E-02	5.34E-09 0.	0.	0.	5.41E 01
37	7.10 0.	4.85E 01	1.55E-03	0.	2.30E-01	0.	1.02E-02	5.57E-09 0.	0.	0.	4.87E 01
38	7.00 0.	4.35E 01	1.17E-03	0.	1.44E 00	0.	1.03E-02	5.81E-09 0.	0.	0.	1.60E 00
39	6.90 0.	3.85E-01	8.97E-04	0.	9.91E-01	0.	1.03E-02	6.07E-09 0.	0.	0.	1.27E 00
40	6.80 0.	3.35E-01	7.08E-04	0.	2.04E 00	0.	1.04E-02	6.34E-09 0.	0.	0.	2.25E 01
41	6.70 0.	2.85E-01	5.09E-04	0.	4.57E 00	0.	1.05E-02	6.63E-09 0.	0.	0.	4.71E 01
42	6.60 0.	2.35E-01	3.75E-04	0.	1.69E 00	0.	1.06E-02	6.93E-09 0.	0.	0.	1.77E 01
43	6.50 0.	1.85E-01	2.33E-04	0.	3.39E 00	0.	1.07E-02	7.26E-09 0.	0.	0.	3.43E 00
44	6.40 0.	1.35E-01	1.13E-04	6.49E-02	6.98E 00	0.	1.08E-02	7.61E-09 0.	0.	0.	7.07E 00
45	6.30 0.	8.42E-03	4.67E-05	2.41E-01	2.24E 00	0.	1.08E-02	7.98E-09 0.	0.	0.	2.50E 00
46	6.20 0.	3.21E-03	1.78E-05	2.82E-01	3.36E 00	0.	1.09E-02	8.37E-09 0.	0.	0.	3.66E 00
47	6.10 0.	1.21E-03	5.96E-06	6.96E-01	9.07E 00	0.	1.10E-02	8.79E-09 0.	0.	0.	9.78E 00
48	6.00 0.	4.29E-04	1.22E-06	4.64E-01	1.79E 00	0.	1.11E-02	9.24E-09 0.	0.	0.	2.26E 00
49	5.90 0.	9.31E-05	8.40E-08	6.25E-01	2.33E 00	0.	1.11E-02	9.72E-09 0.	0.	0.	2.97E 00
50	5.80 0.	1.14E-05	1.96E-09	7.79E-01	2.31E 00	0.	1.09E-02	1.02E-08 0.	0.	0.	3.10E 00
51	5.70 0.	8.23E-07	0.	7.27E-01	1.59E 00	0.	1.03E-02	1.08E-08 0.	0.	0.	2.32E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY	O2 BANDS	1ST POS.	N2	2ND POS.	1ST NEG.	N2+	BETA	NO	GAMMA	VIB-ROT	NO	2	PHOTO-DET	FREE-FREE	N	P.E.	TOTAL AIR
52	5.60	3.47E-08	0.	0.	0.	0.	4.23E-01	3.97E 00	0.	0.	0.	0.	9.55E-03	1.14E-08	0.	0.	4.40E 00
53	5.50	0.	0.	0.	0.	0.	5.63E-01	4.85E 00	0.	0.	0.	0.	9.60E-03	1.20E-08	0.	0.	5.43E 00
54	5.40	0.	0.	0.	0.	0.	4.17E-01	1.74E 00	0.	0.	0.	0.	9.65E-03	1.27E-08	0.	0.	2.16E 00
55	5.30	0.	0.	0.	0.	0.	4.29E-01	3.98E 00	0.	0.	0.	0.	9.71E-03	1.34E-08	0.	0.	4.42E 00
56	5.20	0.	0.	0.	0.	0.	4.13E-01	1.49E 00	0.	0.	0.	0.	9.77E-03	1.42E-08	0.	0.	1.91E 00
57	5.10	0.	0.	0.	0.	0.	3.67E-01	2.12E 00	0.	0.	0.	0.	9.86E-03	1.51E-08	0.	0.	2.50E 00
58	5.00	3.06E-01	0.	0.	0.	0.	2.86E-01	1.80E 00	0.	0.	0.	0.	9.94E-03	1.60E-08	0.	0.	2.41E 00
59	4.90	3.99E-01	0.	0.	0.	0.	2.85E-01	1.29E 00	0.	0.	0.	0.	1.00E-02	1.70E-08	0.	0.	2.19E 00
60	4.80	8.99E-01	0.	0.	0.	0.	2.92E-01	1.27E 00	0.	0.	0.	0.	1.02E-02	1.81E-08	0.	0.	2.48E 00
61	4.70	9.73E-01	0.	0.	0.	0.	2.52E-01	7.60E-01	0.	0.	0.	0.	1.02E-02	1.92E-08	0.	0.	2.01E 00
62	4.60	1.10E 00	0.	0.	0.	0.	2.36E-01	8.17E-01	0.	0.	0.	0.	1.02E-02	2.05E-08	0.	0.	2.17E 00
63	4.50	9.74E-01	0.	0.	0.	0.	1.80E-01	4.28E-01	0.	0.	0.	0.	1.02E-02	2.19E-08	0.	0.	1.60E 00
64	4.40	8.66E-01	0.	0.	0.	0.	1.64E-01	3.92E-01	0.	0.	0.	0.	1.02E-02	2.35E-08	0.	0.	1.44E 00
65	4.30	6.89E-01	0.	0.	0.	0.	1.32E-01	1.60E-01	0.	0.	0.	0.	1.02E-02	2.51E-08	0.	0.	1.00E 00
66	4.20	5.64E-01	0.	0.	0.	0.	1.27E-01	1.60E-01	0.	0.	0.	0.	1.02E-02	2.70E-08	0.	0.	8.72E-01
67	4.10	4.65E-01	0.	0.	0.	0.	1.03E-01	3.85E-02	0.	0.	0.	0.	1.02E-02	2.90E-08	0.	0.	6.27E-01
68	4.00	3.67E-01	0.	0.	0.	0.	8.74E-02	2.60E-02	0.	0.	0.	0.	1.02E-02	3.13E-08	0.	0.	5.01E-01
69	3.90	2.57E-01	0.	0.	0.	0.	6.33E-02	1.45E-02	0.	0.	0.	0.	1.02E-02	3.37E-08	0.	0.	3.56E-01
70	3.80	2.60E-01	0.	0.	0.	0.	6.49E-02	0.	0.	0.	0.	0.	1.02E-02	3.65E-08	0.	0.	3.46E-01
71	3.70	1.80E-01	0.	0.	0.	0.	3.97E-02	0.	0.	0.	0.	0.	1.02E-02	3.95E-08	0.	0.	2.40E-01
72	3.60	1.41E-01	0.	0.	0.	0.	4.3E-02	0.	0.	0.	0.	0.	1.02E-02	4.29E-08	0.	0.	2.05E-01
73	3.50	1.12E-01	0.	0.	0.	0.	2.48E-02	0.	0.	0.	0.	0.	1.02E-02	4.67E-08	0.	0.	1.56E-01
74	3.40	8.32E-02	0.	0.	0.	0.	2.74E-02	0.	0.	0.	0.	0.	1.02E-02	5.09E-08	0.	0.	1.26E-01
75	3.30	5.94E-02	0.	0.	0.	0.	1.62E-02	0.	0.	0.	0.	0.	1.02E-02	5.57E-08	0.	0.	9.11E-02
76	3.20	4.23E-02	0.	0.	0.	0.	1.58E-02	0.	0.	0.	0.	0.	1.02E-02	6.11E-08	0.	0.	7.35E-02
77	3.10	3.38E-02	0.	0.	0.	0.	1.17E-02	0.	0.	0.	0.	0.	1.02E-02	6.72E-08	0.	0.	6.10E-02
78	3.00	2.49E-02	0.	0.	0.	0.	9.15E-03	0.	0.	0.	0.	0.	1.02E-02	7.42E-08	0.	0.	4.94E-02
79	2.90	1.68E-02	0.	0.	0.	0.	4.95E-03	0.	0.	0.	0.	0.	1.02E-02	8.21E-08	0.	0.	3.72E-02
80	2.80	1.51E-02	0.	0.	0.	0.	2.28E-03	0.	0.	0.	0.	0.	1.02E-02	9.13E-08	0.	0.	3.28E-02
81	2.70	7.10E-03	0.	0.	0.	0.	7.93E-04	0.	0.	0.	0.	0.	1.02E-02	1.02E-07	0.	0.	2.33E-02
82	2.60	2.24E-03	0.	0.	0.	0.	3.3E-04	0.	0.	0.	0.	0.	1.02E-02	1.14E-07	0.	0.	1.79E-02
83	2.50	1.32E-04	0.	0.	0.	0.	4.30E-05	0.	0.	0.	0.	0.	1.02E-02	1.28E-07	0.	0.	1.56E-02
84	2.40	0.	0.	0.	0.	0.	3.74E-06	0.	0.	0.	0.	0.	1.02E-02	1.45E-07	0.	0.	1.54E-02
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	1.65E-07	0.	0.	1.55E-02
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	1.89E-07	0.	0.	1.55E-02
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	2.17E-07	0.	0.	1.57E-02
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	2.51E-07	0.	0.	1.56E-02
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	2.93E-07	0.	0.	1.69E-02
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	3.45E-07	0.	0.	1.66E-02
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	4.10E-07	0.	0.	1.65E-02
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	4.92E-07	0.	0.	1.53E-02
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	5.97E-07	0.	0.	1.35E-02
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	7.36E-07	0.	0.	1.25E-02
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	9.21E-07	0.	0.	1.15E-02
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	1.17E-06	0.	0.	1.20E-02
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	1.53E-06	0.	0.	1.12E-02
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	2.03E-06	0.	0.	1.14E-02
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	2.80E-06	0.	0.	1.12E-02
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	4.00E-06	0.	0.	1.22E-02
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	5.99E-06	0.	0.	1.16E-02
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-02	9.56E-06	0.	0.	1.48E-02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		5000.		DENSITY (GM/CC)		1.208E-03 ( 1.0E 00 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 B-W NO. 1	BETA	NO GAMMA	NO 2	PHOTO-DET (IONS)	0-	PHOTO-DET (IONS)	0-	PHOTO-DET (IONS)	0-	PHOTO-DET (IONS)	0-	PHOTO-DET (IONS)
1 10.70 0.	6.42E-01	0.	6.42E-01	0.	0.	0.	5.23E-04	1.02E-10	0.	0.	0.	0.	0.	6.43E-01	0.
2 10.60 0.	4.84E-01	0.	4.84E-01	0.	0.	0.	5.24E-04	1.05E-10	0.	0.	0.	0.	0.	4.85E-01	0.
3 10.50 0.	4.34E-01	0.	4.34E-01	0.	0.	0.	5.24E-04	1.08E-10	0.	0.	0.	0.	0.	4.35E-01	0.
4 10.40 0.	3.92E-01	0.	3.92E-01	0.	0.	0.	5.25E-04	1.11E-10	0.	0.	0.	0.	0.	3.92E-01	0.
5 10.30 0.	2.53E-01	0.	2.53E-01	0.	0.	0.	5.26E-04	1.14E-10	0.	0.	0.	0.	0.	2.53E-01	0.
6 10.20 0.	2.31E-01	0.	2.31E-01	0.	0.	0.	5.26E-04	1.18E-10	0.	0.	0.	0.	0.	2.32E-01	0.
7 10.10 0.	1.93E-01	0.	1.93E-01	0.	0.	0.	5.27E-04	1.21E-10	0.	0.	0.	0.	0.	1.93E-01	0.
8 10.00 0.	1.30E-01	0.	1.30E-01	0.	0.	0.	5.28E-04	1.25E-10	0.	0.	0.	0.	0.	1.31E-01	0.
9 9.90 0.	1.28E-01	0.	1.28E-01	0.	0.	0.	5.29E-04	1.29E-10	0.	0.	0.	0.	0.	1.28E-01	0.
10 9.80 0.	9.98E-02	0.	9.98E-02	0.	0.	0.	5.30E-04	1.33E-10	0.	0.	0.	0.	0.	1.00E-01	0.
11 9.70 0.	6.75E-02	0.	6.75E-02	0.	0.	0.	5.31E-04	1.37E-10	0.	0.	0.	0.	0.	6.80E-02	0.
12 9.60 0.	7.21E-02	0.	7.21E-02	0.	0.	0.	5.32E-04	1.42E-10	0.	0.	0.	0.	0.	7.26E-02	0.
13 9.50 0.	4.70E-02	2.32E 00	4.70E-02	0.	0.	0.	5.33E-04	1.46E-10	0.	0.	0.	0.	0.	2.37E 00	0.
14 9.40 0.	3.76E-02	2.55E 00	3.76E-02	0.	0.	0.	5.35E-04	1.51E-10	0.	0.	0.	0.	0.	2.59E 00	0.
15 9.30 0.	2.78E 00	3.44E-02	2.78E 00	0.	0.	0.	5.37E-04	1.56E-10	0.	0.	0.	0.	0.	2.81E 00	0.
16 9.20 0.	3.00E 00	2.13E-02	3.00E 00	0.	0.	0.	5.39E-04	1.61E-10	0.	0.	0.	0.	0.	3.02E 00	0.
17 9.10 0.	3.70E 00	2.27E-02	3.70E 00	0.	0.	0.	5.40E-04	1.66E-10	0.	0.	0.	0.	0.	3.73E 00	0.
18 9.00 0.	4.50E 00	1.60E-02	4.50E 00	0.	0.	0.	5.42E-04	1.72E-10	0.	0.	0.	0.	0.	4.51E 00	0.
19 8.90 0.	5.29E 00	1.23E-02	5.29E 00	0.	0.	0.	5.44E-04	1.78E-10	0.	0.	0.	0.	0.	5.30E 00	0.
20 8.80 0.	5.50E 00	1.11E-02	5.50E 00	0.	0.	0.	5.46E-04	1.84E-10	0.	0.	0.	0.	0.	5.52E 00	0.
21 8.70 0.	5.01E 00	7.23E-03	5.01E 00	0.	0.	0.	5.48E-04	1.91E-10	0.	0.	0.	0.	0.	5.27E 00	0.
22 8.60 0.	4.79E 00	4.70E-03	4.79E 00	0.	0.	0.	5.50E-04	1.97E-10	0.	0.	0.	0.	0.	5.02E 00	0.
23 8.50 0.	4.59E 00	4.39E-03	4.59E 00	0.	0.	0.	5.52E-04	2.04E-10	0.	0.	0.	0.	0.	4.80E 00	0.
24 8.40 0.	4.40E 00	2.84E-03	4.40E 00	0.	0.	0.	5.55E-04	2.12E-10	0.	0.	0.	0.	0.	4.60E 00	0.
25 8.30 0.	4.21E 00	2.64E-03	4.21E 00	0.	0.	0.	5.61E-04	2.20E-10	0.	0.	0.	0.	0.	4.40E 00	0.
26 8.20 0.	4.02E 00	1.78E-03	4.02E 00	0.	0.	0.	5.64E-04	2.36E-10	0.	0.	0.	0.	0.	4.21E 00	0.
27 8.10 0.	3.83E 00	1.61F-03	3.83E 00	0.	0.	0.	5.67E-04	2.45E-10	0.	0.	0.	0.	0.	4.02E 00	0.
28 8.00 0.	3.61E 00	1.10E-03	3.61E 00	0.	0.	0.	5.70E-04	2.55E-10	0.	0.	0.	0.	0.	3.83E 00	0.
29 7.90 0.	3.40E 00	1.01E-03	3.40E 00	0.	0.	0.	5.72E-04	2.65E-10	0.	0.	0.	0.	0.	3.62E 00	0.
30 7.80 0.	3.19E 00	7.16E-04	3.19E 00	0.	0.	0.	5.75E-04	2.75E-10	0.	0.	0.	0.	0.	3.40E 00	0.
31 7.70 0.	2.97E 00	5.81E-04	2.97E 00	0.	0.	0.	5.78E-04	2.86E-10	0.	0.	0.	0.	0.	3.19E 00	0.
32 7.60 0.	2.75E 00	4.40E-04	2.75E 00	0.	0.	0.	5.81E-04	2.98E-10	0.	0.	0.	0.	0.	2.97E 00	0.
33 7.50 0.	2.53E 00	3.35E-04	2.53E 00	0.	0.	0.	5.84E-04	3.10E-10	0.	0.	0.	0.	0.	2.76E 00	0.
34 7.40 0.	2.30E 00	2.64E-04	2.30E 00	0.	0.	0.	5.88E-04	3.23E-10	0.	0.	0.	0.	0.	2.53E 00	0.
35 7.30 0.	2.09E 00	1.97E-04	2.09E 00	0.	0.	0.	5.91E-04	3.37E-10	0.	0.	0.	0.	0.	2.31E 00	0.
36 7.20 0.	1.88E 00	1.59E-04	1.88E 00	0.	0.	0.	5.96E-04	3.51E-10	0.	0.	0.	0.	0.	2.11E 00	0.
37 7.10 0.	1.21E-04	1.21E-04	1.21E-04	0.	0.	0.	6.01E-04	3.67E-10	0.	0.	0.	0.	0.	1.90E 00	0.
38 7.00 5.91E-03	1.04E-02	0.	1.04E-02	0.	0.	0.	6.05E-04	3.83E-10	0.	0.	0.	0.	0.	9.77E-02	0.
39 6.90 1.04E-02	0.	0.	1.29E-01	0.	0.	0.	6.10E-04	4.00E-10	0.	0.	0.	0.	0.	7.37E-02	0.
40 6.80 7.95E-03	0.	0.	2.89E-01	0.	0.	0.	6.15E-04	4.18E-10	0.	0.	0.	0.	0.	1.37E-01	0.
41 6.70 5.09E-03	0.	0.	1.07E-01	0.	0.	0.	6.20F-04	4.38E-10	0.	0.	0.	0.	0.	2.95E-01	0.
42 6.60 2.78E-03	0.	0.	4.10F-03	4.41E-01	0.	0.	6.25F-04	4.58E-10	0.	0.	0.	0.	0.	1.10E-01	0.
43 6.50 1.40F-03	0.	0.	1.52F-02	1.41E-01	0.	0.	6.30F-04	4.80E-10	0.	0.	0.	0.	0.	2.16E-01	0.
44 6.40 6.73E-04	0.	0.	1.78E-02	2.13E-01	0.	0.	6.34F-04	5.03E-10	0.	0.	0.	0.	0.	4.47E-01	0.
45 6.30 1.25E-04	0.	0.	4.40E-02	5.73E-01	0.	0.	6.39E-04	5.28E-10	0.	0.	0.	0.	0.	1.58E-01	0.
46 6.20 1.25E-04	0.	0.	6.13F-07	1.25F-01	0.	0.	6.44F-04	5.55E-10	0.	0.	0.	0.	0.	2.31E-01	0.
47 6.10 4.69E-05	0.	0.	2.93F-02	1.13E-01	0.	0.	6.49F-04	5.83E-10	0.	0.	0.	0.	0.	6.18E-01	0.
48 6.00 1.67E-05	0.	0.	3.95E-02	1.47E-01	0.	0.	6.49E-04	6.13E-10	0.	0.	0.	0.	0.	1.43E-01	0.
49 5.90 3.62E-06	0.	0.	4.93F-02	1.46E-01	0.	0.	6.49E-04	6.44E-10	0.	0.	0.	0.	0.	1.87E-01	0.
50 5.80 4.42E-07	0.	0.	4.60E-02	1.00E-01	0.	0.	6.49E-04	6.44E-10	0.	0.	0.	0.	0.	1.96E-01	0.
51 5.70 3.20E-08	0.	0.	0.	0.	0.	0.	6.01E-04	6.80E-10	0.	0.	0.	0.	0.	1.47E-01	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSL CM.)

TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.203E-03 ( 1.0E 00 NORMAL)

PHOTON O2 S-R	N2	N2	N2+	N2	BETA	GAMMA	VIB-ROT	NO	2	0-	FREE-FREE	N	0	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	N2	BETA	GAMMA	VIB-ROT	NO	2	0-	FREE-FREE	N	0	P.E.
52	5.60	1.35E-09	0.	0.	2.67E-02	2.51E-01	0.	0.	5.50E-04	7.10E-10	0.	0.	0.	2.78E-01
53	5.50	0.	0.	0.	3.56E-02	3.07E-01	0.	0.	5.61E-04	7.50E-10	0.	0.	0.	3.43E-01
54	5.40	0.	0.	0.	2.64E-02	1.10E-01	0.	0.	5.64E-04	8.01E-10	0.	0.	0.	1.37E-01
55	5.30	0.	0.	0.	2.71E-02	2.52E-01	0.	0.	5.68E-04	8.47E-10	0.	0.	0.	2.79E-01
56	5.20	0.	0.	0.	2.61E-02	9.43E-02	0.	0.	5.71E-04	8.97E-10	0.	0.	0.	1.21E-01
57	5.10	0.	0.	0.	2.32E-02	1.34E-01	0.	1.27E-04	5.70E-04	9.51E-10	0.	0.	0.	1.53E-01
58	5.00	1.19E-02	0.	0.	1.61E-02	1.14E-01	0.	1.27E-04	5.81E-04	1.01E-09	0.	0.	0.	1.45E-01
59	4.90	2.33E-02	0.	0.	1.80E-02	8.16E-02	0.	1.27E-04	5.86E-04	1.07E-09	0.	0.	0.	1.24E-01
60	4.80	3.50E-02	0.	0.	1.85E-02	8.00E-02	0.	1.27E-04	5.91E-04	1.14E-09	0.	0.	0.	1.34E-01
61	4.70	3.78E-02	0.	0.	1.59E-02	4.81E-02	0.	1.27E-04	5.96E-04	1.21E-09	0.	0.	0.	1.03E-01
62	4.60	4.27E-02	0.	0.	1.49E-02	5.16E-02	0.	1.27E-04	6.01E-04	1.30E-09	0.	0.	0.	1.10E-01
63	4.50	3.79E-02	0.	0.	1.14E-02	2.71E-02	0.	1.27E-04	6.05E-04	1.38E-09	0.	0.	0.	7.71E-02
64	4.40	3.37E-02	0.	0.	1.04E-02	2.48E-02	0.	1.27E-04	6.10E-04	1.48E-09	0.	0.	0.	6.96E-02
65	4.30	2.68E-02	0.	0.	8.36E-03	1.01E-02	0.	1.27E-04	6.15E-04	1.59E-09	0.	0.	0.	4.60E-02
66	4.20	2.19E-02	0.	0.	8.03E-03	1.01E-02	0.	1.27E-04	6.20E-04	1.70E-09	0.	0.	0.	4.08E-02
67	4.10	1.81E-02	0.	0.	6.49E-03	2.43E-03	0.	1.27E-04	6.22E-04	1.83E-09	0.	0.	0.	2.77E-02
68	4.00	1.43E-02	0.	0.	5.53E-03	1.64E-03	0.	1.27E-04	6.25E-04	1.97E-09	0.	0.	0.	2.22E-02
69	3.90	9.99E-03	0.	0.	4.00E-03	9.15E-04	0.	1.27E-04	6.22E-04	2.13E-09	0.	0.	0.	1.57E-02
70	3.80	1.01E-02	0.	0.	1.60E-03	4.10E-03	0.	1.27E-04	6.20E-04	2.30E-09	0.	0.	0.	1.50E-02
71	3.70	6.98E-03	0.	0.	4.02E-03	2.51E-03	0.	1.27E-04	6.10E-04	2.49E-09	0.	0.	0.	1.03E-02
72	3.60	5.49E-03	0.	0.	9.40E-06	2.04E-08	0.	1.27E-04	5.71E-04	2.71E-09	0.	0.	0.	8.99E-03
73	3.50	4.37E-03	0.	0.	2.39E-05	1.63E-07	0.	1.27E-04	5.23E-04	2.95E-09	0.	0.	0.	6.61E-03
74	3.40	3.23E-03	0.	0.	5.95E-06	2.44E-09	0.	1.27E-04	3.02E-04	3.21E-09	0.	0.	0.	5.40E-03
75	3.30	2.31E-03	0.	0.	9.09E-06	3.42E-08	0.	1.27E-04	3.02E-04	3.52E-09	0.	0.	0.	3.77E-03
76	3.20	1.65E-03	0.	0.	3.01E-06	2.11E-07	0.	1.27E-04	3.03E-04	3.86E-09	0.	0.	0.	3.08E-03
77	3.10	1.32E-03	0.	0.	2.80E-06	4.01E-09	0.	1.27E-04	3.03E-04	4.24E-09	0.	0.	0.	2.49E-03
78	3.00	9.67E-04	0.	0.	1.07E-06	3.64E-08	0.	1.27E-04	3.04E-04	4.68E-09	0.	0.	0.	1.98E-03
79	2.90	5.54E-04	0.	0.	6.63E-07	4.19E-08	0.	1.27E-04	3.05E-04	5.18E-09	0.	0.	0.	1.40E-03
80	2.80	5.87E-04	0.	0.	2.94E-07	3.94E-09	0.	1.27E-04	3.05E-04	5.76E-09	0.	0.	0.	1.16E-03
81	2.70	2.76E-04	0.	0.	1.21E-07	1.79E-08	0.	1.27E-04	3.05E-04	6.43E-09	0.	0.	0.	7.58E-04
82	2.60	8.72E-05	0.	0.	5.71E-08	2.22E-09	0.	1.27E-04	3.05E-04	7.20E-09	0.	0.	0.	5.34E-04
83	2.50	5.15E-06	0.	0.	1.01E-08	6.63E-10	0.	1.27E-04	3.05E-04	8.10E-09	0.	0.	0.	4.40E-04
84	2.40	0.	0.	0.	1.40E-09	2.36E-07	0.	1.27E-04	3.05E-04	9.16E-09	0.	0.	0.	4.33E-04
85	2.30	0.	0.	0.	0.	0.	0.	1.27E-04	3.03E-04	1.04E-08	0.	0.	0.	4.40E-04
86	2.20	0.	0.	0.	0.	0.	0.	1.27E-04	3.01E-04	1.19E-08	0.	0.	0.	4.44E-04
87	2.10	0.	0.	0.	0.	0.	0.	1.27E-04	3.00E-04	1.37E-08	0.	0.	0.	4.70E-04
88	2.00	0.	0.	0.	0.	0.	0.	1.27E-04	2.91E-04	1.59E-08	0.	0.	0.	4.62E-04
89	1.90	0.	0.	0.	0.	0.	0.	1.27E-04	2.79E-04	1.85E-08	0.	0.	0.	6.02E-04
90	1.80	0.	0.	0.	0.	0.	0.	1.27E-04	2.67E-04	2.18E-08	0.	0.	0.	5.88E-04
91	1.70	0.	0.	0.	0.	0.	0.	1.27E-04	2.52E-04	2.59E-08	0.	0.	0.	5.62E-04
92	1.60	0.	0.	0.	0.	0.	0.	1.27E-04	2.13E-04	3.10E-08	0.	0.	0.	4.89E-04
93	1.50	0.	0.	0.	0.	0.	0.	1.27E-04	9.69E-05	3.77E-08	0.	0.	0.	3.98E-04
94	1.40	0.	0.	0.	0.	0.	0.	1.27E-04	0.	4.64E-08	0.	0.	0.	3.70E-04
95	1.30	0.	0.	0.	0.	0.	0.	1.27E-04	0.	5.81E-08	0.	0.	0.	2.63E-04
96	1.20	0.	0.	0.	0.	0.	0.	1.27E-04	0.	7.40E-08	0.	0.	0.	3.17E-04
97	1.10	0.	0.	0.	0.	0.	0.	1.27E-04	0.	9.63E-08	0.	0.	0.	2.34E-04
98	1.00	0.	0.	0.	0.	0.	0.	1.27E-04	0.	1.28E-07	0.	0.	0.	2.47E-04
99	0.90	0.	0.	0.	0.	0.	0.	1.27E-04	0.	1.76E-07	0.	0.	0.	2.20E-04
100	0.80	0.	0.	0.	0.	0.	0.	1.27E-04	0.	2.52E-07	0.	0.	0.	2.67E-04
101	0.70	0.	0.	0.	0.	0.	0.	1.27E-04	0.	3.78E-07	0.	0.	0.	2.23E-04
102	0.60	0.	0.	0.	0.	0.	0.	1.27E-04	0.	6.04E-07	0.	0.	0.	4.16E-04

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		5000.	DENSITY (GM/CC)		1.293E-04 ( 1.0E-01 NORMAL)		0		P.E.		0		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	02 S-R RANDS	02 S-R CONT.	N2 B-W NO. 1	NO BETA	NO GAMMA	NO	2	PHOTO-DEY (IONS)	FREE-FREE	N	P.E.	0	P.E.	0		
1 10.70 0.		0.	6.55E-02	0.	0.	0.	0.	1.49E-05	4.33E-12	0.	0.	0.	0.	0.	6.55E-02	
2 10.60 0.		0.	4.94E-02	0.	0.	0.	0.	1.49E-05	4.45E-12	0.	0.	0.	0.	0.	4.94E-02	
3 10.50 0.		0.	4.43E-02	0.	0.	0.	0.	1.49E-05	4.58E-12	0.	0.	0.	0.	0.	4.43E-02	
4 10.40 0.		0.	3.59E-02	0.	0.	0.	0.	1.49E-05	4.72E-12	0.	0.	0.	0.	0.	3.59E-02	
5 10.30 0.		0.	2.58E-02	0.	0.	0.	0.	1.50E-05	4.86E-12	0.	0.	0.	0.	0.	2.58E-02	
6 10.20 0.		0.	2.36E-02	0.	0.	0.	0.	1.50E-05	5.00E-12	0.	0.	0.	0.	0.	2.36E-02	
7 10.10 0.		0.	1.96E-02	0.	0.	0.	0.	1.50E-05	5.15E-12	0.	0.	0.	0.	0.	1.97E-02	
8 10.00 0.		0.	1.33E-02	0.	0.	0.	0.	1.50E-05	5.31E-12	0.	0.	0.	0.	0.	1.33E-02	
9 9.90 0.		0.	1.30E-02	0.	0.	0.	0.	1.50E-05	5.47E-12	0.	0.	0.	0.	0.	1.31E-02	
10 9.80 0.		0.	1.02E-02	0.	0.	0.	0.	1.51E-05	5.65E-12	0.	0.	0.	0.	0.	1.02E-02	
11 9.70 0.		0.	6.88E-03	0.	0.	0.	0.	1.51E-05	5.82E-12	0.	0.	0.	0.	0.	6.90E-03	
12 9.60 0.		0.	7.35E-03	0.	0.	0.	0.	1.51E-05	6.01E-12	0.	0.	0.	0.	0.	7.37E-03	
13 9.50 0.		0.	4.79E-03	0.	0.	0.	0.	1.52E-05	6.20E-12	0.	0.	0.	0.	0.	4.61E-02	
14 9.40 0.		0.	4.53E-02	0.	0.	0.	0.	1.52E-05	6.40E-12	0.	0.	0.	0.	0.	4.91E-02	
15 9.30 0.		0.	3.72E-03	0.	0.	0.	0.	1.53E-05	6.61E-12	0.	0.	0.	0.	0.	5.30E-02	
16 9.20 0.		0.	5.33E-02	0.	0.	0.	0.	1.53E-05	6.83E-12	0.	0.	0.	0.	0.	5.55E-02	
17 9.10 0.		0.	6.58E-02	0.	0.	0.	0.	1.54E-05	7.06E-12	0.	0.	0.	0.	0.	6.81E-02	
18 9.00 0.		0.	7.99E-02	0.	0.	0.	0.	1.54E-05	7.30E-12	0.	0.	0.	0.	0.	8.15E-02	
19 8.90 0.		0.	9.40E-02	0.	0.	0.	0.	1.55E-05	7.55E-12	0.	0.	0.	0.	0.	9.53E-02	
20 8.80 0.		0.	9.78E-02	0.	0.	0.	0.	1.55E-05	7.81E-12	0.	0.	0.	0.	0.	9.89E-02	
21 8.70 0.		0.	9.34E-02	0.	0.	0.	0.	1.56E-05	8.09E-12	0.	0.	0.	0.	0.	9.42E-02	
22 8.60 0.		0.	8.90E-02	0.	0.	0.	0.	1.56E-05	8.37E-12	0.	0.	0.	0.	0.	8.98E-02	
23 8.50 0.		0.	8.51E-02	0.	0.	0.	0.	1.57E-05	8.67E-12	0.	0.	0.	0.	0.	8.56E-02	
24 8.40 0.		0.	8.16E-02	0.	0.	0.	0.	1.58E-05	8.99E-12	0.	0.	0.	0.	0.	8.21E-02	
25 8.30 0.		0.	7.82E-02	0.	0.	0.	0.	1.59E-05	9.32E-12	0.	0.	0.	0.	0.	7.85E-02	
26 8.20 0.		0.	7.48E-02	0.	0.	0.	0.	1.60E-05	9.67E-12	0.	0.	0.	0.	0.	7.51E-02	
27 8.10 0.		0.	7.14E-02	0.	0.	0.	0.	1.60E-05	1.00E-11	0.	0.	0.	0.	0.	7.16E-02	
28 8.00 0.		0.	6.80E-02	0.	0.	0.	0.	1.61E-05	1.04E-11	0.	0.	0.	0.	0.	6.82E-02	
29 7.90 0.		0.	6.42E-02	0.	0.	0.	0.	1.62E-05	1.08E-11	0.	0.	0.	0.	0.	6.43E-02	
30 7.80 0.		0.	6.04E-02	0.	0.	0.	0.	1.63E-05	1.12E-11	0.	0.	0.	0.	0.	6.05E-02	
31 7.70 0.		0.	5.66E-02	0.	0.	0.	0.	1.64E-05	1.17E-11	0.	0.	0.	0.	0.	5.67E-02	
32 7.60 0.		0.	5.28E-02	0.	0.	0.	0.	1.64E-05	1.21E-11	0.	0.	0.	0.	0.	5.28E-02	
33 7.50 0.		0.	4.89E-02	0.	0.	0.	0.	1.65E-05	1.26E-11	0.	0.	0.	0.	0.	4.90E-02	
34 7.40 0.		0.	4.50E-02	0.	0.	0.	0.	1.66E-05	1.32E-11	0.	0.	0.	0.	0.	4.50E-02	
35 7.30 0.		0.	4.09E-02	0.	0.	0.	0.	1.67E-05	1.37E-11	0.	0.	0.	0.	0.	4.11E-02	
36 7.20 0.		0.	3.72E-02	0.	0.	0.	0.	1.68E-05	1.43E-11	0.	0.	0.	0.	0.	3.78E-02	
37 7.10 0.		0.	3.35E-02	0.	0.	0.	0.	1.69E-05	1.49E-11	0.	0.	0.	0.	0.	3.41E-02	
38 7.00 1.05E-04		0.	1.23E-05	0.	0.	0.	0.	1.71E-05	1.56E-11	0.	0.	0.	0.	0.	4.00E-03	
39 6.90 1.83E-04		0.	9.40E-06	0.	0.	0.	0.	1.72E-05	1.62E-11	0.	0.	0.	0.	0.	2.87E-03	
40 6.80 1.41E-04		0.	7.41E-06	0.	0.	0.	0.	1.74E-05	1.70E-11	0.	0.	0.	0.	0.	5.64E-03	
41 6.70 9.00E-05		0.	5.34E-06	0.	0.	0.	0.	1.75E-05	1.77E-11	0.	0.	0.	0.	0.	1.24E-02	
42 6.60 4.92E-05		0.	3.93E-06	0.	0.	0.	0.	1.76E-05	1.86E-11	0.	0.	0.	0.	0.	4.61E-03	
43 6.50 2.48E-05		0.	2.44E-06	0.	0.	0.	0.	1.78E-05	1.94E-11	0.	0.	0.	0.	0.	9.14E-03	
44 6.40 1.19E-05		0.	1.18E-06	0.	0.	0.	0.	1.79E-05	2.04E-11	0.	0.	0.	0.	0.	1.89E-02	
45 6.30 5.79E-06		0.	4.90E-07	0.	0.	0.	0.	1.80E-05	2.14E-11	0.	0.	0.	0.	0.	6.68E-03	
46 6.20 2.21E-06		0.	1.86E-07	0.	0.	0.	0.	1.82E-05	2.24E-11	0.	0.	0.	0.	0.	9.81E-03	
47 6.10 8.30E-07		0.	6.25E-08	0.	0.	0.	0.	1.83E-05	2.35E-11	0.	0.	0.	0.	0.	2.62E-02	
48 6.00 2.95E-07		0.	1.27E-08	0.	0.	0.	0.	1.85E-05	2.47E-11	0.	0.	0.	0.	0.	6.06E-03	
49 5.90 6.40E-08		0.	8.80E-10	0.	0.	0.	0.	1.85E-05	2.60E-11	0.	0.	0.	0.	0.	7.95E-03	
50 5.80 7.82E-09		0.	2.05E-11	0.	0.	0.	0.	1.82E-05	2.71E-11	0.	0.	0.	0.	0.	8.31E-03	
51 5.70 5.66E-10		0.	0.	0.	0.	0.	0.	1.71E-05	2.89E-11	0.	0.	0.	0.	0.	6.23E-03	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		5000.	DENSITY (GM/CC)		1.293E-04 ( 1.0E-01 NORMAL)		FREE-FREE		N		O		TOTAL AIR			
PHOTON 02 S-R		1ST POS.	2ND POS.	N2	N2+ 1ST NEG.	BETA	NO	GAMMA	VIB-ROT	NO	2	PHOTO-DET	IONS	P.E.	0	P.E.
52	5.60	2.30E-1	0.	0.	0.	1.13E-03	1.07E-02	0.	0.	1.59E-05	3.04E-11	0.	0.	1.18E-02	0.	0.
53	5.50	0.	0.	0.	0.	1.51E-03	1.30E-02	0.	0.	1.60E-05	3.21E-11	0.	0.	1.46E-02	0.	0.
54	5.40	0.	0.	0.	0.	1.12E-03	4.66E-03	0.	0.	1.60E-05	3.40E-11	0.	0.	5.80E-03	0.	0.
55	5.30	0.	0.	0.	0.	1.15E-03	1.07E-02	0.	0.	1.62E-05	3.59E-11	0.	0.	1.19E-02	0.	0.
56	5.20	0.	0.	0.	0.	1.11E-03	4.00E-03	0.	0.	1.63E-05	3.80E-11	0.	0.	5.13E-03	0.	0.
57	5.10	0.	0.	0.	0.	9.86E-04	5.68E-03	0.	7.15E-07	1.64E-05	4.03E-11	0.	0.	6.68E-03	0.	0.
58	5.00	2.10E-04	0.	0.	0.	7.68E-04	4.84E-03	0.	7.15E-07	1.65E-05	4.28E-11	0.	0.	5.83E-03	0.	0.
59	4.90	4.12E-04	0.	0.	0.	7.66E-04	3.46E-03	0.	7.15E-07	1.67E-05	4.55E-11	0.	0.	4.66E-03	0.	0.
60	4.80	6.18E-04	0.	0.	0.	7.84E-04	3.40E-03	0.	7.15E-07	1.68E-05	4.84E-11	0.	0.	4.82E-03	0.	0.
61	4.70	6.69E-04	0.	0.	0.	6.76E-04	2.04E-03	0.	7.15E-07	1.69E-05	5.15E-11	0.	0.	3.40E-03	0.	0.
62	4.60	7.55E-04	0.	0.	0.	6.33E-04	2.19E-03	0.	7.15E-07	1.71E-05	5.50E-11	0.	0.	3.60E-03	0.	0.
63	4.50	6.70E-04	0.	5.92E-08	0.	4.40E-04	1.15E-03	0.	7.15E-07	1.72E-05	5.87E-11	0.	0.	2.32E-03	0.	0.
64	4.40	5.96E-04	0.	3.35E-07	0.	3.55E-04	4.29E-04	0.	7.15E-07	1.74E-05	6.28E-11	0.	0.	2.11E-03	0.	0.
65	4.30	4.74E-04	0.	4.23E-07	0.	3.41E-04	4.29E-04	0.	7.15E-07	1.75E-05	6.73E-11	0.	0.	1.28E-03	0.	0.
66	4.20	3.88E-04	0.	3.04E-06	0.	2.76E-04	1.03E-04	0.	7.15E-07	1.76E-05	7.23E-11	0.	0.	1.18E-03	0.	0.
67	4.10	3.19E-04	0.	4.31E-07	0.	2.35E-04	6.97E-05	0.	7.15E-07	1.77E-05	7.77E-11	0.	0.	7.17E-04	0.	0.
68	4.00	2.52E-04	0.	4.00E-06	0.	1.70E-04	3.89E-05	0.	7.15E-07	1.78E-05	8.37E-11	0.	0.	5.79E-04	0.	0.
69	3.90	1.79E-04	0.	2.07E-06	0.	1.70E-04	3.89E-05	0.	7.15E-07	1.78E-05	8.37E-11	0.	0.	4.06E-04	0.	0.
70	3.80	1.23E-04	0.	1.72E-06	0.	1.07E-04	0.	0.	7.15E-07	1.74E-05	9.76E-11	0.	0.	3.73E-04	0.	0.
71	3.70	1.23E-04	0.	4.10E-06	0.	1.07E-04	0.	0.	7.15E-07	1.74E-05	1.06E-10	0.	0.	2.52E-04	0.	0.
72	3.60	9.70E-05	0.	9.59E-07	0.	1.19E-04	0.	0.	7.15E-07	1.63E-05	1.15E-10	0.	0.	2.34E-04	0.	0.
73	3.50	7.72E-05	0.	2.44E-06	0.	6.67E-05	0.	0.	7.15E-07	1.49E-05	1.25E-10	0.	0.	1.62E-04	0.	0.
74	3.40	5.72E-05	0.	6.07E-07	0.	1.16E-09	7.36E-05	0.	7.15E-07	8.58E-06	1.36E-10	0.	0.	1.41E-04	0.	0.
75	3.30	4.09E-05	0.	9.27E-07	0.	1.63E-08	4.35E-05	0.	7.15E-07	8.60E-06	1.49E-10	0.	0.	9.46E-05	0.	0.
76	3.20	2.91E-05	0.	3.07E-07	0.	1.01E-07	4.24E-05	0.	7.15E-07	8.61E-06	1.64E-10	0.	0.	8.13E-05	0.	0.
77	3.10	2.33E-05	0.	2.85E-07	0.	1.91E-09	3.15E-05	0.	7.15E-07	8.63E-06	1.80E-10	0.	0.	6.44E-05	0.	0.
78	3.00	1.71E-05	0.	1.09E-07	0.	1.73E-08	2.46E-05	0.	7.15E-07	8.65E-06	1.99E-10	0.	0.	5.12E-05	0.	0.
79	2.90	1.16E-05	0.	6.76E-08	0.	1.33E-08	0.	0.	7.15E-07	8.67E-06	2.20E-10	0.	0.	3.43E-05	0.	0.
80	2.80	1.04E-05	0.	2.59E-08	0.	1.87E-09	6.11E-06	0.	7.15E-07	8.68E-06	2.44E-10	0.	0.	2.59E-05	0.	0.
81	2.70	4.88E-06	0.	1.23E-08	0.	8.50E-09	2.13E-06	0.	7.15E-07	8.68E-06	2.73E-10	0.	0.	1.64E-05	0.	0.
82	2.60	1.54E-06	0.	5.82E-09	0.	1.06E-09	6.26E-07	0.	7.15E-07	8.68E-06	3.05E-10	0.	0.	1.16E-05	0.	0.
83	2.50	9.10E-08	0.	1.03E-09	0.	3.16E-10	1.15E-07	0.	7.15E-07	8.68E-06	3.44E-10	0.	0.	9.61E-06	0.	0.
84	2.40	0.	1.12E-07	0.	6.67E-10	1.00E-08	0.	0.	7.15E-07	8.68E-06	3.89E-10	0.	0.	9.52E-06	0.	0.
85	2.30	0.	1.11E-06	0.	0.	0.	0.	0.	7.15E-07	8.61E-06	4.42E-10	0.	0.	1.04E-05	0.	0.
86	2.20	0.	1.59E-06	0.	0.	0.	0.	0.	7.15E-07	8.58E-06	5.05E-10	0.	0.	1.09E-05	0.	0.
87	2.10	0.	4.39E-06	0.	0.	0.	0.	0.	7.15E-07	8.54E-06	5.81E-10	0.	0.	1.36E-05	0.	0.
88	2.00	0.	4.60E-06	0.	0.	0.	0.	0.	7.15E-07	8.27E-06	6.73E-10	0.	0.	1.36E-05	0.	0.
89	1.90	0.	1.99E-05	0.	0.	0.	0.	0.	7.15E-07	7.95E-06	7.85E-10	0.	0.	2.86E-05	0.	0.
90	1.80	0.	1.98E-05	0.	0.	0.	0.	0.	7.15E-07	7.61E-06	9.24E-10	0.	0.	2.81E-05	0.	0.
91	1.70	0.	2.07E-05	0.	0.	0.	0.	0.	7.15E-07	7.17E-06	1.10E-09	0.	0.	2.86E-05	0.	0.
92	1.60	0.	1.53E-05	0.	0.	0.	0.	0.	7.15E-07	6.06E-06	1.32E-09	0.	0.	2.20E-05	0.	0.
93	1.50	0.	1.77E-05	0.	0.	0.	0.	0.	7.15E-07	2.76E-06	1.60E-09	0.	0.	2.12E-05	0.	0.
94	1.40	0.	2.48E-05	0.	0.	0.	0.	0.	7.15E-07	0.	1.97E-09	0.	0.	2.55E-05	0.	0.
95	1.30	0.	1.39E-05	0.	0.	0.	0.	0.	7.15E-07	0.	2.46E-09	0.	0.	1.46E-05	0.	0.
96	1.20	0.	1.94E-05	0.	0.	0.	0.	0.	7.15E-07	0.	3.14E-09	0.	0.	2.01E-05	0.	0.
97	1.10	0.	1.07E-05	0.	0.	0.	0.	0.	8.64E-08	7.15E-07	4.08E-09	0.	0.	1.15E-05	0.	0.
98	1.00	0.	1.16E-05	0.	0.	0.	0.	0.	2.90E-07	7.15E-07	5.45E-09	0.	0.	1.26E-05	0.	0.
99	0.90	0.	7.85E-06	0.	0.	0.	0.	0.	6.79E-07	7.15E-07	7.49E-09	0.	0.	9.25E-06	0.	0.
100	0.80	0.	3.43E-06	0.	0.	0.	0.	0.	4.54E-06	7.15E-07	1.07E-08	0.	0.	8.69E-06	0.	0.
101	0.70	0.	1.01E-06	0.	0.	0.	0.	0.	3.67E-06	7.15E-07	1.60E-08	0.	0.	5.41E-06	0.	0.
102	0.60	0.	7.78E-09	0.	0.	0.	0.	0.	1.23E-05	7.15E-07	2.56E-08	0.	0.	1.30E-05	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)			5000.			DENSITY (GM/CC) 1.293E-09 (10.0E-03 NORMAL)			FREE-FREE (IONS)			TOTAL AIR		
PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 R-W NO. 1	NO BETA	NO GAMMA	2	PHOTO-DET	0-	0-	N	P.E.	0	P.E.	
1 10.70 0.	6.45E-03	0.	0.	0.	0.	0.	2.90E-07	1.47E-13	0.	0.	6.45E-03	0.	6.45E-03	
2 10.60 0.	4.86E-03	0.	0.	0.	0.	0.	2.99E-07	1.51E-13	0.	0.	4.86E-03	0.	4.86E-03	
3 10.50 0.	4.36E-03	0.	0.	0.	0.	0.	2.99E-07	1.56E-13	0.	0.	4.36E-03	0.	4.36E-03	
4 10.40 0.	3.53E-03	0.	0.	0.	0.	0.	2.99E-07	1.60E-13	0.	0.	3.53E-03	0.	3.53E-03	
5 10.30 0.	2.54E-03	0.	0.	0.	0.	0.	3.00E-07	1.65E-13	0.	0.	2.54E-03	0.	2.54E-03	
6 10.20 0.	2.32E-03	0.	0.	0.	0.	0.	3.00E-07	1.70E-13	0.	0.	2.32E-03	0.	2.32E-03	
7 10.10 0.	1.93E-03	0.	0.	0.	0.	0.	3.01E-07	1.75E-13	0.	0.	1.93E-03	0.	1.93E-03	
8 10.00 0.	1.31E-03	0.	0.	0.	0.	0.	3.01E-07	1.81E-13	0.	0.	1.31E-03	0.	1.31E-03	
9 9.90 0.	1.28E-03	0.	0.	0.	0.	0.	3.02E-07	1.86E-13	0.	0.	1.28E-03	0.	1.28E-03	
10 9.80 0.	1.00E-03	0.	0.	0.	0.	0.	3.02E-07	1.92E-13	0.	0.	1.00E-03	0.	1.00E-03	
11 9.70 0.	6.77E-04	0.	0.	0.	0.	0.	3.03E-07	1.98E-13	0.	0.	6.77E-04	0.	6.77E-04	
12 9.60 0.	7.24E-04	0.	0.	0.	0.	0.	3.03E-07	2.04E-13	0.	0.	7.24E-04	0.	7.24E-04	
13 9.50 0.	4.63E-04	0.	0.	0.	0.	0.	3.04E-07	2.11E-13	0.	0.	9.55E-04	0.	9.55E-04	
14 9.40 0.	3.78E-04	0.	0.	0.	0.	0.	3.05E-07	2.18E-13	0.	0.	9.08E-04	0.	9.08E-04	
15 9.30 0.	3.66E-04	0.	0.	0.	0.	0.	3.06E-07	2.25E-13	0.	0.	9.43E-04	0.	9.43E-04	
16 9.20 0.	2.14E-04	0.	0.	0.	0.	0.	3.07E-07	2.32E-13	0.	0.	8.38E-04	0.	8.38E-04	
17 9.10 0.	2.27E-04	0.	0.	0.	0.	0.	3.08E-07	2.40E-13	0.	0.	9.98E-04	0.	9.98E-04	
18 9.00 0.	1.60E-04	0.	0.	0.	0.	0.	3.09E-07	2.48E-13	0.	0.	1.10E-03	0.	1.10E-03	
19 8.90 0.	1.24E-04	0.	0.	0.	0.	0.	3.10E-07	2.57E-13	0.	0.	1.22E-03	0.	1.22E-03	
20 8.80 0.	1.11E-04	0.	0.	0.	0.	0.	3.12E-07	2.64E-13	0.	0.	1.26E-03	0.	1.26E-03	
21 8.70 0.	7.20E-05	0.	0.	0.	0.	0.	3.13E-07	2.75E-13	0.	0.	1.17E-03	0.	1.17E-03	
22 8.60 0.	7.25E-05	0.	0.	0.	0.	0.	3.14E-07	2.85E-13	0.	0.	1.12E-03	0.	1.12E-03	
23 8.50 0.	4.72E-05	0.	0.	0.	0.	0.	3.15E-07	2.95E-13	0.	0.	1.04E-03	0.	1.04E-03	
24 8.40 0.	4.41E-05	0.	0.	0.	0.	0.	3.17E-07	3.06E-13	0.	0.	10.00E-04	0.	10.00E-04	
25 8.30 0.	2.85E-05	0.	0.	0.	0.	0.	3.18E-07	3.17E-13	0.	0.	9.44E-04	0.	9.44E-04	
26 8.20 0.	2.65E-05	0.	0.	0.	0.	0.	3.20E-07	3.29E-13	0.	0.	9.02E-04	0.	9.02E-04	
27 8.10 0.	1.79E-05	0.	0.	0.	0.	0.	3.22E-07	3.41E-13	0.	0.	8.54E-04	0.	8.54E-04	
28 8.00 0.	1.62E-05	0.	0.	0.	0.	0.	3.23E-07	3.54E-13	0.	0.	8.12E-04	0.	8.12E-04	
29 7.90 0.	1.10E-05	0.	0.	0.	0.	0.	3.25E-07	3.68E-13	0.	0.	7.63E-04	0.	7.63E-04	
30 7.80 0.	1.02E-05	0.	0.	0.	0.	0.	3.26E-07	3.82E-13	0.	0.	7.18E-04	0.	7.18E-04	
31 7.70 0.	7.19E-06	0.	0.	0.	0.	0.	3.28E-07	3.97E-13	0.	0.	6.70E-04	0.	6.70E-04	
32 7.60 0.	5.83E-06	0.	0.	0.	0.	0.	3.30E-07	4.13E-13	0.	0.	6.24E-04	0.	6.24E-04	
33 7.50 0.	4.42E-06	0.	0.	0.	0.	0.	3.31E-07	4.30E-13	0.	0.	5.78E-04	0.	5.78E-04	
34 7.40 0.	3.36E-06	0.	0.	0.	0.	0.	3.33E-07	4.48E-13	0.	0.	5.31E-04	0.	5.31E-04	
35 7.30 0.	2.65E-06	0.	0.	0.	0.	0.	3.35E-07	4.66E-13	0.	0.	4.97E-04	0.	4.97E-04	
36 7.20 0.	1.98E-06	0.	0.	0.	0.	0.	3.37E-07	4.86E-13	0.	0.	4.57E-04	0.	4.57E-04	
37 7.10 0.	1.60E-06	0.	0.	0.	0.	0.	3.40E-07	5.07E-13	0.	0.	4.14E-04	0.	4.14E-04	
38 7.00 0.	1.21E-06	0.	0.	0.	0.	0.	3.43E-07	5.29E-13	0.	0.	1.34E-04	0.	1.34E-04	
39 6.90 0.	9.25E-07	0.	0.	0.	0.	0.	3.45E-07	5.52E-13	0.	0.	9.37E-05	0.	9.37E-05	
40 6.80 0.	7.30E-07	0.	0.	0.	0.	0.	3.48E-07	5.77E-13	0.	0.	1.88E-04	0.	1.88E-04	
41 6.70 0.	5.25E-07	0.	0.	0.	0.	0.	3.51E-07	6.03E-13	0.	0.	4.18E-04	0.	4.18E-04	
42 6.60 0.	3.86E-07	0.	0.	0.	0.	0.	3.54E-07	6.31E-13	0.	0.	1.55E-04	0.	1.55E-04	
43 6.50 0.	2.90E-07	0.	0.	0.	0.	0.	3.56E-07	6.61E-13	0.	0.	3.09E-05	0.	3.09E-05	
44 6.40 0.	1.39E-07	0.	0.	0.	0.	0.	3.59E-07	6.93E-13	0.	0.	6.42E-04	0.	6.42E-04	
45 6.30 0.	6.77E-08	0.	0.	0.	0.	0.	3.62E-07	7.26E-13	0.	0.	2.26E-04	0.	2.26E-04	
46 6.20 0.	2.58E-08	0.	0.	0.	0.	0.	3.65E-07	7.62E-13	0.	0.	3.33E-04	0.	3.33E-04	
47 6.10 0.	9.71E-09	0.	0.	0.	0.	0.	3.67E-07	8.00E-13	0.	0.	8.90E-04	0.	8.90E-04	
48 6.00 0.	3.45E-09	0.	0.	0.	0.	0.	3.70E-07	8.41E-13	0.	0.	2.05E-04	0.	2.05E-04	
49 5.90 0.	7.49E-10	0.	0.	0.	0.	0.	3.70E-07	8.85E-13	0.	0.	2.70E-04	0.	2.70E-04	
50 5.80 0.	9.14E-11	0.	0.	0.	0.	0.	3.65E-07	9.31E-13	0.	0.	2.82E-04	0.	2.82E-04	
51 5.70 0.	6.62E-12	0.	0.	0.	0.	0.	3.43E-07	9.82E-13	0.	0.	2.11E-04	0.	2.11E-04	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.293E-03 (10.0E-03 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO RETA	NO GAMMA	NO VIB-ROT	NO 2	0+ PHOTO-DET (IONS)	FREF-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
52	5.60	2.79E-13	0.	0.	3.85E-05	3.61E-04	0.	3.18E-07	1.03E-12	0.	0.	4.00E-04
53	5.50	0.	0.	5.13E-05	4.42E-04	0.	0.	3.20E-07	1.09E-12	0.	0.	4.94E-04
54	5.40	0.	0.	3.80E-05	1.58E-04	0.	0.	3.22E-07	1.15E-12	0.	0.	1.96E-04
55	5.30	0.	0.	3.91E-05	3.63E-04	0.	0.	3.24E-07	1.22E-12	0.	0.	4.02E-04
56	5.20	0.	0.	3.76E-05	1.36E-04	0.	0.	3.26E-07	1.29E-12	0.	0.	1.74E-04
57	5.10	0.	0.	3.34E-05	1.93E-04	0.	2.62E-09	3.29E-07	1.37E-12	0.	0.	2.26E-04
58	5.00	2.46E-06	0.	2.61E-05	1.64E-04	0.	2.62E-09	3.31E-07	1.45E-12	0.	0.	1.93E-04
59	4.90	4.82E-06	0.	2.60E-05	1.18E-04	0.	2.62E-09	3.34E-07	1.55E-12	0.	0.	1.49E-04
60	4.80	7.23E-06	0.	2.66E-05	1.15E-04	0.	2.62E-09	3.37E-07	1.64E-12	0.	0.	1.49E-04
61	4.70	7.83E-06	0.	2.29E-05	6.93E-05	0.	2.62E-09	3.40E-07	1.75E-12	0.	0.	1.00E-04
62	4.60	8.83E-06	0.	2.15E-05	7.44E-05	0.	2.62E-09	3.43E-07	1.87E-12	0.	0.	1.05E-04
63	4.50	7.83E-06	0.	1.64E-05	3.90E-05	0.	2.62E-09	3.45E-07	2.00E-12	0.	0.	6.36E-05
64	4.40	6.97E-06	0.	1.49E-05	3.57E-05	0.	2.62E-09	3.48E-07	2.14E-12	0.	0.	5.82E-05
65	4.30	5.54E-06	0.	1.20E-05	1.45E-05	0.	2.62E-09	3.51E-07	2.29E-12	0.	0.	3.25E-05
66	4.20	4.54E-06	0.	1.16E-05	1.46E-05	0.	2.62E-09	3.54E-07	2.46E-12	0.	0.	3.13E-05
67	4.10	3.74E-06	0.	9.36E-06	3.51E-06	0.	2.62E-09	3.55E-07	2.64E-12	0.	0.	1.70E-05
68	4.00	2.95E-06	0.	7.96E-06	2.37E-06	0.	2.62E-09	3.56E-07	2.85E-12	0.	0.	1.40E-05
69	3.90	2.07E-06	0.	5.76E-06	1.32E-06	0.	2.62E-09	3.59E-07	3.07E-12	0.	0.	9.71E-06
70	3.80	2.09E-06	0.	5.91E-06	0.	0.	2.62E-09	3.54E-07	3.32E-12	0.	0.	8.54E-06
71	3.70	1.44E-06	0.	3.62E-06	0.	0.	2.62E-09	3.48E-07	3.60E-12	0.	0.	5.82E-06
72	3.60	1.13E-06	0.	4.04E-06	0.	0.	2.62E-09	3.26E-07	3.91E-12	0.	0.	5.60E-06
73	3.50	9.03E-07	0.	2.26E-06	0.	0.	2.62E-09	2.98E-07	4.25E-12	0.	0.	3.75E-06
74	3.40	6.69E-07	0.	2.50E-06	0.	0.	2.62E-09	1.72E-07	4.64E-12	0.	0.	3.40E-06
75	3.30	4.78E-07	0.	1.48E-06	0.	0.	2.62E-09	1.72E-07	5.07E-12	0.	0.	2.23E-06
76	3.20	3.40E-07	0.	1.44E-06	0.	0.	2.62E-09	1.73E-07	5.56E-12	0.	0.	2.04E-06
77	3.10	2.72E-07	0.	1.07E-06	0.	0.	2.62E-09	1.73E-07	6.12E-12	0.	0.	1.55E-06
78	3.00	2.00E-07	0.	8.33E-07	0.	0.	2.62E-09	1.73E-07	6.75E-12	0.	0.	1.23E-06
79	2.90	1.35E-07	0.	4.51E-07	0.	0.	2.62E-09	1.74E-07	7.48E-12	0.	0.	7.80E-07
80	2.80	1.21E-07	0.	2.07E-07	0.	0.	2.62E-09	1.74E-07	8.31E-12	0.	0.	5.09E-07
81	2.70	5.71E-08	0.	2.22E-08	0.	0.	2.62E-09	1.74E-07	9.27E-12	0.	0.	3.12E-07
82	2.60	1.80E-08	0.	2.13E-08	0.	0.	2.62E-09	1.74E-07	1.04E-11	0.	0.	2.17E-07
83	2.50	1.06E-09	0.	3.92E-09	0.	0.	2.62E-09	1.74E-07	1.17E-11	0.	0.	1.82E-07
84	2.40	0.	1.10E-08	3.41E-10	0.	0.	2.62E-09	1.74E-07	1.32E-11	0.	0.	1.80E-07
85	2.30	0.	0.	0.	0.	0.	2.62E-09	1.73E-07	1.50E-11	0.	0.	2.84E-07
86	2.20	0.	0.	0.	0.	0.	2.62E-09	1.72E-07	1.72E-11	0.	0.	3.31E-07
87	2.10	0.	0.	0.	0.	0.	2.62E-09	1.71E-07	1.97E-11	0.	0.	6.06E-07
88	2.00	0.	0.	0.	0.	0.	2.62E-09	1.66E-07	2.29E-11	0.	0.	6.21E-07
89	1.90	0.	0.	0.	0.	0.	2.62E-09	1.59E-07	2.67E-11	0.	0.	2.12E-06
90	1.80	0.	0.	0.	0.	0.	2.62E-09	1.52E-07	3.14E-11	0.	0.	2.10E-06
91	1.70	0.	0.	0.	0.	0.	2.62E-09	1.44E-07	3.73E-11	0.	0.	2.19E-06
92	1.60	0.	0.	0.	0.	0.	2.62E-09	1.22E-07	4.48E-11	0.	0.	1.63E-06
93	1.50	0.	0.	0.	0.	0.	2.62E-09	5.52E-08	5.44E-11	0.	0.	1.80E-06
94	1.40	0.	0.	0.	0.	0.	2.62E-09	0.	6.70E-11	0.	0.	2.44E-06
95	1.30	0.	0.	0.	0.	0.	2.62E-09	0.	8.38E-11	0.	0.	1.37E-06
96	1.20	0.	0.	0.	0.	0.	2.62E-09	0.	1.07E-10	0.	0.	1.91E-06
97	1.10	0.	0.	0.	0.	2.93E-09	2.62E-09	0.	1.39E-10	0.	0.	1.06E-06
98	1.00	0.	0.	0.	0.	9.84E-09	2.62E-09	0.	1.85E-10	0.	0.	1.15E-06
99	0.90	0.	0.	0.	0.	2.30E-08	2.62E-09	0.	2.55E-10	0.	0.	7.98E-07
100	0.80	0.	0.	0.	0.	1.54E-07	2.62E-09	0.	3.64E-10	0.	0.	4.94E-07
101	0.70	0.	0.	0.	0.	1.24E-07	2.62E-09	0.	5.66E-10	0.	0.	2.27E-07
102	0.60	0.	0.	0.	0.	4.16E-07	2.62E-09	0.	8.71E-10	0.	0.	4.21E-07



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY E.V.	02 S-R CONT.	N2 R-H NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	0.	5.89E-04	0.	0.	0.	5.39E-09	4.60E-15	0.	0.	5.89E-04
2 10.60 0.	0.	4.45E-04	0.	0.	0.	5.39E-09	4.73E-15	0.	0.	4.45E-04
3 10.50 0.	0.	3.99E-04	0.	0.	0.	5.40E-09	4.87E-15	0.	0.	3.99E-04
4 10.40 0.	0.	3.23E-04	0.	0.	0.	5.41E-09	5.01E-15	0.	0.	3.23E-04
5 10.30 0.	0.	2.32E-04	0.	0.	0.	5.42E-09	5.16E-15	0.	0.	2.32E-04
6 10.20 0.	0.	2.12E-04	0.	0.	0.	5.42E-09	5.32E-15	0.	0.	2.12E-04
7 10.10 0.	0.	1.77E-04	0.	0.	0.	5.43E-09	5.48E-15	0.	0.	1.77E-04
8 10.00 0.	0.	1.20E-04	0.	0.	0.	5.44E-09	5.64E-15	0.	0.	1.20E-04
9 9.90 0.	0.	1.17E-04	0.	0.	0.	5.45E-09	5.82E-15	0.	0.	1.17E-04
10 9.80 0.	0.	9.16E-05	0.	0.	0.	5.46E-09	6.00E-15	0.	0.	9.16E-05
11 9.70 0.	0.	6.19E-05	0.	0.	0.	5.47E-09	6.19E-15	0.	0.	6.19E-05
12 9.60 0.	0.	6.62E-05	0.	0.	0.	5.48E-09	6.38E-15	0.	0.	6.62E-05
13 9.50 0.	0.	4.31E-05	0.	0.	0.	5.49E-09	6.59E-15	0.	0.	4.31E-05
14 9.40 0.	5.03E-06	3.45E-05	0.	0.	0.	5.51E-09	6.80E-15	0.	0.	4.01E-05
15 9.30 0.	6.01E-06	3.34E-05	0.	0.	0.	5.53E-09	7.03E-15	0.	0.	3.94E-05
16 9.20 0.	6.50E-06	1.95E-05	0.	0.	0.	5.55E-09	7.26E-15	0.	0.	2.60E-05
17 9.10 0.	8.02E-06	2.08E-05	0.	0.	0.	5.57E-09	7.50E-15	0.	0.	2.88E-05
18 9.00 0.	9.74E-06	1.46E-05	0.	0.	0.	5.59E-09	7.76E-15	0.	0.	2.44E-05
19 8.90 0.	1.15E-05	1.13E-05	0.	0.	0.	5.61E-09	8.02E-15	0.	0.	2.28E-05
20 8.80 0.	1.19E-05	1.01E-05	0.	0.	0.	5.63E-09	8.30E-15	0.	0.	2.21E-05
21 8.70 0.	1.14E-05	6.58E-06	0.	0.	0.	5.65E-09	8.59E-15	0.	0.	1.80E-05
22 8.60 0.	1.09E-05	6.63E-06	0.	0.	0.	5.67E-09	8.90E-15	0.	0.	1.75E-05
23 8.50 0.	1.04E-05	4.32E-06	0.	0.	0.	5.69E-09	9.22E-15	0.	0.	1.47E-05
24 8.40 0.	9.95E-06	4.03E-06	0.	0.	0.	5.72E-09	9.55E-15	0.	0.	1.40E-05
25 8.30 0.	9.53E-06	2.61E-06	0.	0.	0.	5.75E-09	9.90E-15	0.	0.	1.21E-05
26 8.20 0.	9.11E-06	2.42E-06	0.	0.	0.	5.78E-09	1.03E-14	0.	0.	1.15E-05
27 8.10 0.	8.70E-06	1.63E-06	0.	0.	0.	5.81E-09	1.07E-14	0.	0.	1.03E-05
28 8.00 0.	8.28E-06	1.48E-06	0.	0.	0.	5.84E-09	1.11E-14	0.	0.	9.77E-06
29 7.90 0.	7.82E-06	1.01E-06	0.	0.	0.	5.87E-09	1.15E-14	0.	0.	8.84E-06
30 7.80 0.	7.36E-06	9.32E-07	0.	0.	0.	5.90E-09	1.19E-14	0.	0.	8.30E-06
31 7.70 0.	6.90E-06	6.57E-07	0.	0.	0.	5.93E-09	1.24E-14	0.	0.	7.56E-06
32 7.60 0.	6.43E-06	5.33E-07	0.	6.85E-10	0.	5.96E-09	1.29E-14	0.	0.	6.97E-06
33 7.50 0.	5.96E-06	4.04E-07	0.	9.57E-09	0.	5.99E-09	1.34E-14	0.	0.	6.38E-06
34 7.40 0.	5.48E-06	3.07E-07	0.	2.26E-08	0.	6.02E-09	1.40E-14	0.	0.	5.81E-06
35 7.30 0.	4.99E-06	2.43E-07	0.	1.43E-07	0.	6.05E-09	1.46E-14	0.	0.	5.38E-06
36 7.20 0.	4.53E-06	1.81E-07	0.	6.04E-07	0.	6.09E-09	1.52E-14	0.	0.	5.32E-06
37 7.10 0.	4.08E-06	1.46E-07	0.	6.48E-07	0.	6.14E-09	1.58E-14	0.	0.	4.88E-06
38 7.00 1.27E-08	0.	1.11E-07	0.	4.05E-06	0.	6.19E-09	1.65E-14	0.	0.	4.18E-06
39 6.90 2.23E-08	0.	8.46E-08	0.	2.79E-06	0.	6.24E-09	1.73E-14	0.	0.	2.90E-06
40 6.80 1.71E-08	0.	6.67E-08	0.	5.73E-06	0.	6.29E-09	1.80E-14	0.	0.	5.82E-06
41 6.70 1.10E-08	0.	4.80E-08	0.	1.28E-05	0.	6.34E-09	1.89E-14	0.	0.	1.29E-05
42 6.60 6.00E-09	0.	3.53E-08	0.	4.75E-06	0.	6.39E-09	1.97E-14	0.	0.	4.80E-06
43 6.50 3.03E-09	0.	2.20E-08	0.	9.52E-06	0.	6.44E-09	2.07E-14	0.	0.	9.55E-06
44 6.40 1.45E-09	0.	1.06E-08	1.82E-07	1.96E-05	0.	6.49E-09	2.16E-14	0.	0.	1.98E-05
45 6.30 7.05E-10	0.	4.41E-09	6.77E-07	6.29E-06	0.	6.54E-09	2.27E-14	0.	0.	6.98E-06
46 6.20 2.69E-10	0.	1.68E-09	7.92E-07	9.46E-06	0.	6.59E-09	2.38E-14	0.	0.	1.03E-05
47 6.10 1.01E-10	0.	5.62E-10	1.96E-06	2.55E-05	0.	6.64E-09	2.50E-14	0.	0.	2.75E-05
48 6.00 3.60E-11	0.	1.15E-10	1.30E-06	5.03E-06	0.	6.69E-09	2.63E-14	0.	0.	6.34E-06
49 5.90 7.80E-12	0.	7.92E-12	1.76E-06	6.55E-06	0.	6.69E-09	2.76E-14	0.	0.	8.32E-06
50 5.80 9.53E-13	0.	1.84E-13	2.19E-06	6.49E-06	0.	6.59E-09	2.91E-14	0.	0.	8.69E-06
51 5.70 6.90E-14	0.	0.	2.04E-06	4.46E-06	0.	6.19E-09	3.07E-14	0.	0.	6.51E-06

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	NO VIB-ROT	NO PHOTO-DEY (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52	5.60	2.91E-15	0.	1.19E-06	1.12E-05	0.	5.75E-09	3.24E-14	0.	0.	1.24E-05
53	5.50	0.	0.	1.58E-06	1.37E-05	0.	5.78E-09	3.42E-14	0.	0.	1.52E-05
54	5.40	0.	0.	1.17E-06	4.88E-06	0.	5.81E-09	3.61E-14	0.	0.	6.06E-06
55	5.30	0.	0.	1.21E-06	1.12E-05	0.	5.85E-09	3.82E-14	0.	0.	1.24E-05
56	5.20	0.	0.	1.16E-06	4.19E-06	0.	5.89E-09	4.04E-14	0.	0.	5.36E-06
57	5.10	0.	0.	1.03E-06	5.95E-06	0.	5.94E-09	4.28E-14	0.	0.	6.99E-06
58	5.00	2.56E-08	0.	8.04E-07	5.07E-06	0.	5.99E-09	4.55E-14	0.	0.	5.90E-06
59	4.90	5.02E-08	0.	8.02E-07	3.63E-06	0.	6.04E-09	4.83E-14	0.	0.	4.49E-06
60	4.80	7.54E-08	0.	8.21E-07	3.56E-06	0.	6.08E-09	5.14E-14	0.	0.	4.46E-06
61	4.70	8.16E-08	0.	7.08E-07	2.14E-06	0.	6.14E-09	5.48E-14	0.	0.	2.93E-06
62	4.60	9.20E-08	0.	6.63E-07	2.30E-06	0.	6.19E-09	5.84E-14	0.	0.	3.06E-06
63	4.50	8.16E-08	5.33E-10	5.07E-07	1.20E-06	0.	6.24E-09	6.24E-14	0.	0.	1.80E-06
64	4.40	7.26E-08	3.01E-09	4.61E-07	1.10E-06	0.	6.29E-09	6.68E-14	0.	0.	1.65E-06
65	4.30	5.78E-08	3.81E-09	3.72E-07	4.49E-07	0.	6.34E-09	7.15E-14	0.	0.	8.89E-07
66	4.20	4.73E-08	2.73E-08	3.57E-07	4.50E-07	0.	6.39E-09	7.64E-14	0.	0.	8.88E-07
67	4.10	3.89E-08	3.88E-09	2.89E-07	1.08E-07	0.	6.44E-09	8.26E-14	0.	0.	4.46E-07
68	4.00	3.07E-08	3.60E-08	2.46E-07	7.30E-08	0.	6.49E-09	8.99E-14	0.	0.	3.92E-07
69	3.90	2.15E-08	1.86E-08	1.78E-07	4.07E-08	0.	6.54E-09	9.80E-14	0.	0.	2.65E-07
70	3.80	2.10E-08	1.55E-08	1.82E-07	0.	0.	6.59E-09	1.04E-13	0.	0.	2.30E-07
71	3.70	1.50E-08	3.69E-08	1.12E-07	0.	0.	6.64E-09	1.12E-13	0.	0.	1.71E-07
72	3.60	1.18E-08	8.63E-09	1.25E-07	0.	0.	6.69E-09	1.22E-13	0.	0.	1.54E-07
73	3.50	9.41E-09	2.20E-08	6.99E-08	0.	0.	6.74E-09	1.33E-13	0.	0.	1.28E-07
74	3.40	6.97E-09	5.46E-09	3.19E-10	7.71E-08	0.	6.79E-09	1.45E-13	0.	0.	9.30E-08
75	3.30	4.98E-09	8.34E-09	4.47E-09	4.56E-08	0.	6.84E-09	1.58E-13	0.	0.	6.65E-08
76	3.20	3.55E-09	2.76E-09	2.76E-08	4.44E-08	0.	6.89E-09	1.74E-13	0.	0.	8.15E-08
77	3.10	2.84E-09	2.57E-09	5.24E-10	3.30E-08	0.	6.94E-09	1.91E-13	0.	0.	4.21E-08
78	3.00	2.08E-09	9.83E-10	4.75E-09	2.57E-08	0.	6.99E-09	2.11E-13	0.	0.	3.67E-08
79	2.90	1.41E-09	6.09E-10	5.47E-09	1.39E-08	0.	7.04E-09	2.34E-13	0.	0.	2.46E-08
80	2.80	1.26E-09	2.33E-10	5.15E-10	6.40E-09	0.	7.09E-09	2.60E-13	0.	0.	1.16E-08
81	2.70	5.95E-10	1.11E-10	2.33E-09	2.23E-09	0.	7.14E-09	2.90E-13	0.	0.	8.42E-09
82	2.60	1.88E-10	5.24E-11	2.91E-10	6.56E-10	0.	7.19E-09	3.25E-13	0.	0.	4.34E-09
83	2.50	1.11E-11	9.31E-12	8.67E-11	1.21E-10	0.	7.24E-09	3.65E-13	0.	0.	3.38E-09
84	2.40	0.	1.83E-10	1.05E-11	0.	0.	7.29E-09	4.13E-13	0.	0.	4.35E-09
85	2.30	0.	0.	0.	0.	0.	7.34E-09	4.69E-13	0.	0.	1.31E-08
86	2.20	0.	0.	0.	0.	0.	7.39E-09	5.36E-13	0.	0.	1.74E-08
87	2.10	0.	0.	0.	0.	0.	7.44E-09	6.17E-13	0.	0.	4.26E-08
88	2.00	0.	0.	0.	0.	0.	7.49E-09	7.15E-13	0.	0.	4.44E-08
89	1.90	0.	0.	0.	0.	0.	7.54E-09	8.34E-13	0.	0.	1.82E-07
90	1.80	0.	0.	0.	0.	0.	7.59E-09	9.80E-13	0.	0.	1.89E-07
91	1.70	0.	0.	0.	0.	0.	7.64E-09	1.17E-12	0.	0.	1.89E-07
92	1.60	0.	0.	0.	0.	0.	7.69E-09	1.40E-12	0.	0.	1.39E-07
93	1.50	0.	0.	0.	0.	0.	7.74E-09	1.70E-12	0.	0.	1.61E-07
94	1.40	0.	0.	0.	0.	0.	7.79E-09	2.09E-12	0.	0.	2.23E-07
95	1.30	0.	0.	0.	0.	0.	7.84E-09	2.62E-12	0.	0.	1.25E-07
96	1.20	0.	0.	0.	0.	0.	7.89E-09	3.34E-12	0.	0.	1.75E-07
97	1.10	0.	0.	0.	0.	0.	7.94E-09	4.34E-12	0.	0.	9.67E-08
98	1.00	0.	0.	0.	0.	0.	7.99E-09	5.79E-12	0.	0.	1.05E-07
99	0.90	0.	0.	0.	0.	0.	8.04E-09	7.95E-12	0.	0.	7.14E-08
100	0.80	0.	0.	0.	0.	0.	8.09E-09	1.14E-11	0.	0.	3.56E-08
101	0.70	0.	0.	0.	0.	0.	8.14E-09	1.70E-11	0.	0.	1.30E-08
102	0.60	0.	0.	0.	0.	0.	8.19E-09	2.72E-11	0.	0.	1.30E-08

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)			5000.	DENSITY (GM/CC) 1.293E-07			(10.0E-05 NORMAL)				
PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 R-W NO. 1	NO RETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.		0.	4.40E-05	0.	0.	0.	9.29E-11 1.34E-16 0.	0.	0.	0.	4.40E-05
2 10.60 0.		0.	3.32E-05	0.	0.	0.	9.27E-11 1.38E-16 0.	0.	0.	0.	3.32E-05
3 10.50 0.		0.	2.98E-05	0.	0.	0.	9.28E-11 1.42E-16 0.	0.	0.	0.	2.98E-05
4 10.40 0.		0.	2.41E-05	0.	0.	0.	9.29E-11 1.46E-16 0.	0.	0.	0.	2.41E-05
5 10.30 0.		0.	1.73E-05	0.	0.	0.	9.30E-11 1.50E-16 0.	0.	0.	0.	1.73E-05
6 10.20 0.		0.	1.59E-05	0.	0.	0.	9.32E-11 1.55E-16 0.	0.	0.	0.	1.59E-05
7 10.10 0.		0.	1.32E-05	0.	0.	0.	9.33E-11 1.60E-16 0.	0.	0.	0.	1.32E-05
8 10.00 0.		0.	8.93E-06	0.	0.	0.	9.34E-11 1.64E-16 0.	0.	0.	0.	8.93E-06
9 9.90 0.		0.	8.76E-06	0.	0.	0.	9.36E-11 1.70E-16 0.	0.	0.	0.	8.76E-06
10 9.80 0.		0.	6.84E-06	0.	0.	0.	9.37E-11 1.75E-16 0.	0.	0.	0.	6.84E-06
11 9.70 0.		0.	4.62E-06	0.	0.	0.	9.39E-11 1.80E-16 0.	0.	0.	0.	4.62E-06
12 9.60 0.		0.	4.94E-06	0.	0.	0.	9.41E-11 1.86E-16 0.	0.	0.	0.	4.94E-06
13 9.50 0.		5.09E-08	3.22E-06	0.	0.	0.	9.43E-11 1.92E-16 0.	0.	0.	0.	3.27E-06
14 9.40 0.		5.59E-08	2.58E-06	0.	0.	0.	9.46E-11 1.98E-16 0.	0.	0.	0.	2.63E-06
15 9.30 0.		6.08E-08	2.50E-06	0.	0.	0.	9.49E-11 2.05E-16 0.	0.	0.	0.	2.56E-06
16 9.20 0.		6.58E-08	1.46E-06	0.	0.	0.	9.53E-11 2.12E-16 0.	0.	0.	0.	1.52E-06
17 9.10 0.		8.12E-08	1.55E-06	0.	0.	0.	9.56E-11 2.19E-16 0.	0.	0.	0.	1.43E-06
18 9.00 0.		9.86E-08	1.09E-06	0.	0.	0.	9.60E-11 2.26E-16 0.	0.	0.	0.	1.19E-06
19 8.90 0.		1.16E-07	8.44E-07	0.	0.	0.	9.63E-11 2.34E-16 0.	0.	0.	0.	9.60E-07
20 8.80 0.		1.21E-07	7.58E-07	0.	0.	0.	9.67E-11 2.42E-16 0.	0.	0.	0.	8.78E-07
21 8.70 0.		1.15E-07	4.91E-07	0.	0.	0.	9.70E-11 2.50E-16 0.	0.	0.	0.	6.06E-07
22 8.60 0.		1.10E-07	4.95E-07	0.	0.	0.	9.73E-11 2.59E-16 0.	0.	0.	0.	6.05E-07
23 8.50 0.		1.05E-07	3.22E-07	0.	0.	0.	9.77E-11 2.69E-16 0.	0.	0.	0.	4.27E-07
24 8.40 0.		1.01E-07	3.91E-07	0.	0.	0.	9.82E-11 2.78E-16 0.	0.	0.	0.	4.02E-07
25 8.30 0.		9.64E-08	1.95E-07	0.	0.	0.	9.87E-11 2.89E-16 0.	0.	0.	0.	2.91E-07
26 8.20 0.		9.22E-08	1.81E-07	0.	0.	0.	9.92E-11 2.99E-16 0.	0.	0.	0.	2.73E-07
27 8.10 0.		8.80E-08	1.22E-07	0.	0.	0.	9.97E-11 3.11E-16 0.	0.	0.	0.	2.10E-07
28 8.00 0.		8.38E-08	1.10E-07	0.	0.	0.	1.00E-10 3.22E-16 0.	0.	0.	0.	1.94E-07
29 7.90 0.		7.92E-08	7.53E-08	0.	0.	0.	1.01E-10 3.35E-16 0.	0.	0.	0.	1.55E-07
30 7.80 0.		7.45E-08	6.95E-08	0.	0.	0.	1.01E-10 3.48E-16 0.	0.	0.	0.	1.44E-07
31 7.70 0.		6.98E-08	4.91E-08	0.	0.	0.	1.02E-10 3.62E-16 0.	0.	0.	0.	1.19E-07
32 7.60 0.		6.51E-08	3.98E-08	0.	1.88E-11	0.	1.02E-10 3.76E-16 0.	0.	0.	0.	1.05E-07
33 7.50 0.		6.03E-08	3.02E-08	0.	2.63E-10	0.	1.03E-10 3.92E-16 0.	0.	0.	0.	9.09E-08
34 7.40 0.		5.54E-08	2.30E-08	0.	6.22E-10	0.	1.03E-10 4.08E-16 0.	0.	0.	0.	7.51E-08
35 7.30 0.		5.05E-08	1.81E-08	0.	3.94E-09	0.	1.04E-10 4.25E-16 0.	0.	0.	0.	7.26E-08
36 7.20 0.		4.59E-08	1.35E-08	0.	1.46E-08	0.	1.05E-10 4.43E-16 0.	0.	0.	0.	7.61E-08
37 7.10 0.		4.13E-08	1.09E-08	0.	1.78E-08	0.	1.05E-10 4.62E-16 0.	0.	0.	0.	7.01E-08
38 7.00 1.29E-10		0.	8.26E-09	0.	1.11E-07	0.	1.06E-10 4.82E-16 0.	0.	0.	0.	1.20E-07
39 6.90 2.26E-10		0.	6.32E-09	0.	7.66E-08	0.	1.07E-10 5.03E-16 0.	0.	0.	0.	8.32E-08
40 6.80 1.73E-10		0.	4.98E-09	0.	1.58E-07	0.	1.08E-10 5.26E-16 0.	0.	0.	0.	1.63E-07
41 6.70 1.11E-10		0.	3.59E-09	0.	3.53E-07	0.	1.09E-10 5.50E-16 0.	0.	0.	0.	3.57E-07
42 6.60 6.07E-11		0.	2.64E-09	0.	1.31E-07	0.	1.10E-10 5.75E-16 0.	0.	0.	0.	1.33E-07
43 6.50 3.06E-11		0.	1.64E-09	0.	2.62E-07	0.	1.11E-10 6.02E-16 0.	0.	0.	0.	2.63E-07
44 6.40 1.47E-11		0.	7.94E-10	5.02E-09	5.40E-07	0.	1.11E-10 6.31E-16 0.	0.	0.	0.	5.46E-07
45 6.30 7.14E-12		0.	3.29E-10	1.86E-08	1.73E-07	0.	1.12E-10 6.61E-16 0.	0.	0.	0.	1.92E-07
46 6.20 2.72E-12		0.	1.25E-10	2.18E-08	2.60E-07	0.	1.13E-10 6.94E-16 0.	0.	0.	0.	2.42E-07
47 6.10 1.02E-12		0.	4.20E-11	5.38E-08	7.01E-07	0.	1.14E-10 7.29E-16 0.	0.	0.	0.	7.55E-07
48 6.00 3.64E-13		0.	8.56E-12	3.59E-08	1.38E-07	0.	1.15E-10 7.66E-16 0.	0.	0.	0.	1.74E-07
49 5.90 7.90E-14		0.	5.91E-13	4.83E-08	1.80E-07	0.	1.15E-10 8.06E-16 0.	0.	0.	0.	2.29E-07
50 5.80 9.65E-15		0.	1.38E-14	6.03E-08	1.78E-07	0.	1.13E-10 8.48E-16 0.	0.	0.	0.	2.39E-07
51 5.70 6.98E-16		0.	0.	5.62E-08	1.23E-07	0.	1.06E-10 8.94E-16 0.	0.	0.	0.	1.79E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO	GAMMA	VIB-ROT	NO	2	PHOTO-DET	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
52	5.60	2.94E-17	0.	0.	3.27E-08	3.07E-07	0.	0.	0.	9.88E-11	9.43E-16	0.	0.	3.39E-07
53	5.50	0.	0.	0.	4.35E-08	3.75E-07	0.	0.	0.	9.93E-11	9.95E-16	0.	0.	4.19E-07
54	5.40	0.	0.	0.	3.22E-08	1.34E-07	0.	0.	0.	9.98E-11	1.05E-15	0.	0.	1.66E-07
55	5.30	0.	0.	0.	3.32E-08	3.08E-07	0.	0.	0.	1.00E-10	1.11E-15	0.	0.	3.41E-07
56	5.20	0.	0.	0.	3.19E-08	1.15E-07	0.	0.	0.	1.01E-10	1.10E-15	0.	0.	1.47E-07
57	5.10	0.	0.	0.	2.84E-08	1.64E-07	0.	0.	2.29E-14	1.02E-10	1.25E-15	0.	0.	1.92E-07
58	5.00	2.59E-10	0.	0.	2.21E-08	1.39E-07	0.	0.	2.29E-14	1.03E-10	1.32E-15	0.	0.	1.62E-07
59	4.90	5.08E-10	0.	0.	2.21E-08	9.97E-08	0.	0.	2.29E-14	1.04E-10	1.41E-15	0.	0.	1.22E-07
60	4.80	7.63E-10	0.	0.	2.26E-08	9.78E-08	0.	0.	2.29E-14	1.05E-10	1.50E-15	0.	0.	1.21E-07
61	4.70	8.26E-10	0.	0.	1.95E-08	5.88E-08	0.	0.	2.29E-14	1.05E-10	1.60E-15	0.	0.	7.92E-08
62	4.60	9.31E-10	0.	0.	1.82E-08	6.31E-08	0.	0.	2.29E-14	1.06E-10	1.70E-15	0.	0.	8.24E-08
63	4.50	8.26E-10	0.	3.98E-11	1.39E-08	3.31E-08	0.	0.	2.29E-14	1.07E-10	1.82E-15	0.	0.	4.80E-08
64	4.40	7.35E-10	0.	2.25E-10	1.27E-08	3.03E-08	0.	0.	2.29E-14	1.08E-10	1.95E-15	0.	0.	4.41E-08
65	4.30	5.85E-10	0.	2.84E-10	1.02E-08	1.23E-08	0.	0.	2.29E-14	1.09E-10	2.08E-15	0.	0.	2.35E-08
66	4.20	4.79E-10	0.	2.04E-09	9.81E-09	1.24E-08	0.	0.	2.29E-14	1.10E-10	2.24E-15	0.	0.	2.48E-08
67	4.10	3.94E-10	0.	2.89E-10	7.94E-09	2.98E-09	0.	0.	2.29E-14	1.10E-10	2.41E-15	0.	0.	1.17E-08
68	4.00	3.11E-10	0.	2.69E-09	6.76E-09	2.01E-09	0.	0.	2.29E-14	1.11E-10	2.59E-15	0.	0.	1.19E-08
69	3.90	2.18E-10	0.	1.39E-09	4.89E-09	1.12E-09	0.	0.	2.29E-14	1.10E-10	2.80E-15	0.	0.	7.81E-09
70	3.80	2.21E-10	0.	1.16E-09	5.01E-09	0.	0.	0.	2.29E-14	1.10E-10	3.02E-15	0.	0.	8.38E-09
71	3.70	1.52E-10	0.	2.75E-09	2.85E-10	3.07E-09	0.	0.	2.29E-14	1.08E-10	3.28E-15	0.	0.	6.37E-09
72	3.60	1.20E-10	0.	6.44E-10	1.17E-09	3.42E-09	0.	0.	2.29E-14	1.01E-10	3.56E-15	0.	0.	5.46E-09
73	3.50	9.53E-11	0.	1.84E-09	9.34E-09	1.92E-09	0.	0.	2.29E-14	9.25E-11	3.87E-15	0.	0.	1.31E-08
74	3.40	7.06E-11	0.	4.08E-10	1.39E-10	2.12E-09	0.	0.	2.29E-14	5.34E-11	4.22E-15	0.	0.	2.79E-09
75	3.30	5.04E-11	0.	6.23E-10	1.95E-09	1.25E-09	0.	0.	2.29E-14	5.35E-11	4.62E-15	0.	0.	3.93E-09
76	3.20	3.59E-11	0.	2.06E-10	1.21E-08	1.22E-09	0.	0.	2.29E-14	5.36E-11	5.07E-15	0.	0.	1.36E-08
77	3.10	2.87E-11	0.	1.92E-10	2.29E-10	9.08E-10	0.	0.	2.29E-14	5.37E-11	5.57E-15	0.	0.	1.41E-09
78	3.00	2.11E-11	0.	7.34E-11	2.08E-09	7.07E-10	0.	0.	2.29E-14	5.38E-11	6.15E-15	0.	0.	2.93E-09
79	2.90	1.43E-11	0.	4.54E-11	2.39E-09	3.83E-10	0.	0.	2.29E-14	5.39E-11	6.81E-15	0.	0.	2.89E-09
80	2.80	1.28E-11	0.	1.74E-11	2.25E-10	1.76E-10	0.	0.	2.29E-14	5.40E-11	7.57E-15	0.	0.	4.85E-10
81	2.70	6.03E-12	0.	8.29E-12	1.02E-09	6.13E-11	0.	0.	2.29E-14	5.40E-11	8.44E-15	0.	0.	1.15E-09
82	2.60	1.90E-12	0.	3.91E-12	1.27E-10	1.80E-11	0.	0.	2.29E-14	5.40E-11	9.46E-15	0.	0.	2.05E-10
83	2.50	1.12E-13	0.	6.95E-13	3.79E-11	3.32E-12	0.	0.	2.29E-14	5.40E-11	1.06E-14	0.	0.	9.61E-11
84	2.40	0.	7.52E-11	0.	8.01E-11	2.89E-13	0.	0.	2.29E-14	5.40E-11	1.20E-14	0.	0.	2.10E-10
85	2.30	0.	7.45E-10	0.	0.	0.	0.	0.	2.29E-14	5.36E-11	1.37E-14	0.	0.	7.98E-10
86	2.20	0.	1.07E-09	0.	0.	0.	0.	0.	2.29E-14	5.33E-11	1.56E-14	0.	0.	1.12E-09
87	2.10	0.	2.95E-09	0.	0.	0.	0.	0.	2.29E-14	5.31E-11	1.80E-14	0.	0.	3.00E-09
88	2.00	0.	3.09E-09	0.	0.	0.	0.	0.	2.29E-14	5.14E-11	2.08E-14	0.	0.	3.14E-09
89	1.90	0.	1.34E-08	0.	0.	0.	0.	0.	2.29E-14	4.95E-11	2.43E-14	0.	0.	1.34E-08
90	1.80	0.	1.33E-08	0.	0.	0.	0.	0.	2.29E-14	4.73E-11	2.86E-14	0.	0.	1.33E-08
91	1.70	0.	1.39E-08	0.	0.	0.	0.	0.	2.29E-14	4.46E-11	3.40E-14	0.	0.	1.40E-08
92	1.60	0.	1.02E-08	0.	0.	0.	0.	0.	2.29E-14	3.77E-11	4.08E-14	0.	0.	1.03E-08
93	1.50	0.	1.19E-08	0.	0.	0.	0.	0.	2.29E-14	1.71E-11	4.95E-14	0.	0.	1.19E-08
94	1.40	0.	1.67E-08	0.	0.	0.	0.	0.	2.29E-14	0.	6.10E-14	0.	0.	1.67E-08
95	1.30	0.	9.36E-09	0.	0.	0.	0.	0.	2.29E-14	0.	7.63E-14	0.	0.	9.36E-09
96	1.20	0.	1.30E-08	0.	0.	0.	0.	0.	2.29E-14	0.	9.73E-14	0.	0.	1.30E-08
97	1.10	0.	7.78E-09	0.	0.	0.	0.	2.49E-12	2.29E-14	0.	1.26E-13	0.	0.	7.22E-09
98	1.00	0.	7.78E-09	0.	0.	0.	0.	8.35E-12	2.29E-14	0.	1.69E-13	0.	0.	7.79E-09
99	0.90	0.	5.27E-09	0.	0.	0.	0.	1.95E-11	2.29E-14	0.	2.32E-13	0.	0.	5.29E-09
100	0.80	0.	2.30E-09	0.	0.	0.	0.	1.31E-10	2.29E-14	0.	3.31E-13	0.	0.	2.43E-09
101	0.70	0.	6.81E-10	0.	0.	0.	0.	1.06E-10	2.29E-14	0.	4.97E-13	0.	0.	7.87E-10
102	0.60	0.	5.23E-12	0.	0.	0.	0.	3.53E-10	2.29E-14	0.	7.93E-13	0.	0.	3.59E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON ENERGY E.V.	02 S-R CONT.	N2 R-W NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1 10.76 0.	0.	1.87E-06	0.	0.	0.	1.60E-12 3.99E-18 0.	0.	0.	0.	1.87E-06
2 10.60 0.	0.	1.41E-06	0.	0.	0.	1.60E-12 4.10E-18 0.	0.	0.	0.	1.41E-06
3 10.50 0.	0.	1.27E-06	0.	0.	0.	1.60E-12 4.22E-18 0.	0.	0.	0.	1.27E-06
4 10.40 0.	0.	1.03E-06	0.	0.	0.	1.60E-12 4.34E-18 0.	0.	0.	0.	1.03E-06
5 10.30 0.	0.	7.38E-07	0.	0.	0.	1.61E-12 4.47E-18 0.	0.	0.	0.	7.38E-07
6 10.20 0.	0.	6.75E-07	0.	0.	0.	1.61E-12 4.61E-18 0.	0.	0.	0.	6.75E-07
7 10.10 0.	0.	5.62E-07	0.	0.	0.	1.61E-12 4.74E-18 0.	0.	0.	0.	5.62E-07
8 10.00 0.	0.	3.81E-07	0.	0.	0.	1.61E-12 4.89E-18 0.	0.	0.	0.	3.81E-07
9 9.90 0.	0.	3.73E-07	0.	0.	0.	1.62E-12 5.04E-18 0.	0.	0.	0.	3.73E-07
10 9.80 0.	0.	2.91E-07	0.	0.	0.	1.62E-12 5.20E-18 0.	0.	0.	0.	2.91E-07
11 9.70 0.	0.	1.97E-07	0.	0.	0.	1.62E-12 5.36E-18 0.	0.	0.	0.	1.97E-07
12 9.60 0.	0.	2.10E-07	0.	0.	0.	1.63E-12 5.53E-18 0.	0.	0.	0.	2.10E-07
13 9.50 0.	5.12E-10	1.37E-07	0.	0.	0.	1.63E-12 5.71E-18 0.	0.	0.	0.	1.38E-07
14 9.40 0.	5.62E-10	1.10E-07	0.	0.	0.	1.63E-12 5.89E-18 0.	0.	0.	0.	1.10E-07
15 9.30 0.	6.12E-10	1.06E-07	0.	0.	0.	1.64E-12 6.09E-18 0.	0.	0.	0.	1.07E-07
16 9.20 0.	6.62E-10	6.21E-08	0.	0.	0.	1.65E-12 6.29E-18 0.	0.	0.	0.	6.28E-08
17 9.10 0.	8.17E-10	6.61E-08	0.	0.	0.	1.65E-12 6.50E-18 0.	0.	0.	0.	6.69E-08
18 9.00 0.	9.91E-10	4.65E-08	0.	0.	0.	1.66E-12 6.72E-18 0.	0.	0.	0.	4.75E-08
19 8.90 0.	1.17E-09	3.60E-08	0.	0.	0.	1.66E-12 6.95E-18 0.	0.	0.	0.	3.71E-08
20 8.80 0.	1.21E-09	3.23E-08	0.	0.	0.	1.67E-12 7.19E-18 0.	0.	0.	0.	3.35E-08
21 8.70 0.	1.16E-09	2.09E-08	0.	0.	0.	1.68E-12 7.44E-18 0.	0.	0.	0.	2.21E-08
22 8.60 0.	1.10E-09	2.11E-08	0.	0.	0.	1.68E-12 7.71E-18 0.	0.	0.	0.	2.22E-08
23 8.50 0.	1.06E-09	1.37E-08	0.	0.	0.	1.69E-12 7.99E-18 0.	0.	0.	0.	1.48E-08
24 8.40 0.	1.01E-09	1.28E-08	0.	0.	0.	1.70E-12 8.28E-18 0.	0.	0.	0.	1.38E-08
25 8.30 0.	9.70E-10	8.30E-09	0.	0.	0.	1.71E-12 8.58E-18 0.	0.	0.	0.	9.27E-09
26 8.20 0.	9.28E-10	7.71E-09	0.	0.	0.	1.71E-12 8.90E-18 0.	0.	0.	0.	8.64E-09
27 8.10 0.	8.86E-10	5.20E-09	0.	0.	0.	1.72E-12 9.24E-18 0.	0.	0.	0.	6.08E-09
28 8.00 0.	8.43E-10	4.70E-09	0.	0.	0.	1.73E-12 9.59E-18 0.	0.	0.	0.	5.54E-09
29 7.90 0.	7.97E-10	3.21E-09	0.	0.	0.	1.74E-12 9.96E-18 0.	0.	0.	0.	4.00E-09
30 7.80 0.	7.50E-10	2.96E-09	0.	0.	0.	1.75E-12 1.03E-17 0.	0.	0.	0.	3.71E-09
31 7.70 0.	7.02E-10	2.09E-09	0.	0.	0.	1.76E-12 1.08E-17 0.	0.	0.	0.	2.79E-09
32 7.60 0.	6.55E-10	1.70E-09	0.	0.	0.	1.77E-12 1.12E-17 0.	0.	0.	0.	2.35E-09
33 7.50 0.	6.07E-10	1.28E-09	0.	0.	0.	1.78E-12 1.16E-17 0.	0.	0.	0.	1.90E-09
34 7.40 0.	5.58E-10	9.78E-10	0.	0.	0.	1.79E-12 1.21E-17 0.	0.	0.	0.	1.55E-09
35 7.30 0.	5.08E-10	7.71E-10	0.	0.	0.	1.80E-12 1.26E-17 0.	0.	0.	0.	1.36E-09
36 7.20 0.	4.61E-10	5.76E-10	0.	0.	0.	1.81E-12 1.32E-17 0.	0.	0.	0.	1.38E-09
37 7.10 0.	4.15E-10	4.65E-10	0.	0.	0.	1.82E-12 1.37E-17 0.	0.	0.	0.	1.25E-09
38 7.00 1.29E-12	0.	3.52E-10	0.	0.	0.	1.84E-12 1.43E-17 0.	0.	0.	0.	2.66E-09
39 6.90 2.27E-12	0.	2.69E-10	0.	0.	0.	1.85E-12 1.50E-17 0.	0.	0.	0.	1.86E-09
40 6.80 1.74E-12	0.	2.12E-10	0.	0.	0.	1.87E-12 1.56E-17 0.	0.	0.	0.	3.47E-09
41 6.70 1.12E-12	0.	1.53E-10	0.	0.	0.	1.88E-12 1.63E-17 0.	0.	0.	0.	7.46E-09
42 6.60 6.09E-13	0.	1.12E-10	0.	0.	0.	1.89E-12 1.71E-17 0.	0.	0.	0.	2.82E-09
43 6.50 3.08E-13	0.	6.99E-11	0.	0.	0.	1.91E-12 1.79E-17 0.	0.	0.	0.	5.49E-09
44 6.40 1.47E-13	0.	3.38E-11	1.04E-10	1.12E-08	0.	1.92E-12 1.87E-17 0.	0.	0.	0.	1.13E-08
45 6.30 7.17E-14	0.	1.40E-11	3.85E-10	3.58E-09	0.	1.94E-12 1.97E-17 0.	0.	0.	0.	3.98E-09
46 6.20 2.73E-14	0.	5.33E-12	4.50E-10	5.38E-09	0.	1.95E-12 2.06E-17 0.	0.	0.	0.	5.84E-09
47 6.10 1.03E-14	0.	1.79E-12	1.11E-09	1.45E-08	0.	1.97E-12 2.17E-17 0.	0.	0.	0.	1.56E-08
48 6.00 3.65E-15	0.	3.65E-13	7.42E-10	2.86E-09	0.	1.98E-12 2.28E-17 0.	0.	0.	0.	3.60E-09
49 5.90 7.93E-16	0.	2.52E-14	10.00E-10	3.73E-09	0.	1.98E-12 2.39E-17 0.	0.	0.	0.	4.73E-09
50 5.80 9.69E-17	0.	5.86E-16	1.25E-09	3.69E-09	0.	1.95E-12 2.52E-17 0.	0.	0.	0.	4.94E-09
51 5.70 7.01E-18	0.	0.	1.16E-09	2.54E-09	0.	1.84E-12 2.66E-17 0.	0.	0.	0.	3.70E-09

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R ENERGY BANDS		N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	VIB-ROT	NO	NO	2	PHOTO-DET (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	2.95E-19	0.	0.	6.76E-10	6.35E-09	0.	0.	0.	0.	1.71E-12	2.80E-17	0.	7.02E-09
53	5.50	0.	0.	0.	9.01E-10	7.76E-09	0.	0.	0.	0.	1.72E-12	2.96E-17	0.	8.67E-09
54	5.40	0.	0.	0.	6.67E-10	2.78E-09	0.	0.	0.	0.	1.72E-12	3.13E-17	0.	3.44E-09
55	5.30	0.	0.	0.	6.87E-10	6.37E-09	0.	0.	0.	0.	1.74E-12	3.31E-17	0.	7.05E-09
56	5.20	0.	0.	0.	6.61E-10	2.38E-09	0.	0.	0.	0.	1.75E-12	3.50E-17	0.	3.05E-09
57	5.10	0.	0.	0.	5.87E-10	3.38E-09	0.	0.	0.	0.	1.76E-12	3.71E-17	0.	3.97E-09
58	5.00	2.60E-12	0.	0.	4.57E-10	2.88E-09	0.	0.	0.	0.	1.78E-12	3.94E-17	0.	3.34E-09
59	4.90	5.10E-12	0.	0.	4.56E-10	2.06E-09	0.	0.	0.	0.	1.79E-12	4.19E-17	0.	2.53E-09
60	4.80	7.66E-12	0.	0.	4.67E-10	2.02E-09	0.	0.	0.	0.	1.81E-12	4.45E-17	0.	2.50E-09
61	4.70	8.29E-12	0.	0.	4.03E-10	1.22E-09	0.	0.	0.	0.	1.82E-12	4.74E-17	0.	1.63E-09
62	4.60	9.35E-12	0.	0.	3.77E-10	1.31E-09	0.	0.	0.	0.	1.84E-12	5.06E-17	0.	1.69E-09
63	4.50	8.29E-12	0.	1.69E-12	2.88E-10	6.84E-10	0.	0.	0.	0.	1.85E-12	5.41E-17	0.	9.85E-10
64	4.40	7.38E-12	0.	9.57E-12	2.62E-10	6.28E-10	0.	0.	0.	0.	1.87E-12	5.78E-17	0.	9.09E-10
65	4.30	5.87E-12	0.	1.21E-11	2.11E-10	2.55E-10	0.	0.	0.	0.	1.88E-12	6.20E-17	0.	4.87E-10
66	4.20	4.80E-12	0.	8.69E-11	2.03E-10	2.56E-10	0.	0.	0.	0.	1.89E-12	6.65E-17	0.	5.52E-10
67	4.10	3.96E-12	0.	1.23E-11	1.64E-10	6.15E-11	0.	0.	0.	0.	1.90E-12	7.15E-17	0.	2.44E-10
68	4.00	3.12E-12	0.	1.14E-11	1.40E-10	4.15E-11	0.	0.	0.	0.	1.91E-12	7.70E-17	0.	3.01E-10
69	3.90	2.19E-12	0.	5.92E-11	1.01E-10	2.31E-11	0.	0.	0.	0.	1.90E-12	8.31E-17	0.	2.09E-10
70	3.80	2.22E-12	0.	4.93E-11	1.04E-10	0.	0.	0.	0.	0.	1.89E-12	8.99E-17	0.	6.21E-10
71	3.70	1.53E-12	0.	1.17E-11	6.36E-11	0.	0.	0.	0.	0.	1.87E-12	9.74E-17	0.	2.55E-10
72	3.60	1.20E-12	0.	2.74E-11	3.97E-11	0.	0.	0.	0.	0.	1.75E-12	1.06E-16	0.	3.90E-10
73	3.50	9.56E-13	0.	6.98E-11	2.31E-09	3.97E-11	0.	0.	0.	0.	1.60E-12	1.15E-16	0.	2.42E-09
74	3.40	7.09E-13	0.	1.74E-11	3.44E-11	4.39E-11	0.	0.	0.	0.	9.22E-13	1.26E-16	0.	9.73E-11
75	3.30	5.06E-13	0.	2.65E-11	4.83E-10	2.59E-11	0.	0.	0.	0.	9.24E-13	1.37E-16	0.	5.37E-10
76	3.20	3.60E-13	0.	8.79E-12	2.98E-09	2.53E-11	0.	0.	0.	0.	9.25E-13	1.51E-16	0.	3.02E-09
77	3.10	2.88E-13	0.	8.16E-12	5.66E-11	1.88E-11	0.	0.	0.	0.	9.28E-13	1.66E-16	0.	8.48E-11
78	3.00	2.12E-13	0.	3.13E-12	5.14E-10	1.46E-11	0.	0.	0.	0.	9.30E-13	1.83E-16	0.	5.32E-10
79	2.90	1.43E-13	0.	1.94E-12	5.91E-10	7.92E-12	0.	0.	0.	0.	9.31E-13	2.02E-16	0.	6.02E-10
80	2.80	1.29E-13	0.	7.41E-13	5.56E-11	3.64E-12	0.	0.	0.	0.	9.33E-13	2.25E-16	0.	6.10E-11
81	2.70	6.05E-14	0.	3.53E-13	2.52E-10	1.27E-12	0.	0.	0.	0.	9.33E-13	2.51E-16	0.	2.55E-10
82	2.60	1.91E-14	0.	1.66E-13	3.14E-11	3.73E-13	0.	0.	0.	0.	9.33E-13	2.81E-16	0.	3.29E-11
83	2.50	1.13E-15	0.	2.96E-14	9.37E-12	6.88E-14	0.	0.	0.	0.	9.33E-13	3.16E-16	0.	1.04E-11
84	2.40	0.	3.20E-12	1.98E-11	5.98E-15	0.	0.	0.	0.	0.	9.33E-13	3.58E-16	0.	2.39E-11
85	2.30	0.	3.17E-11	0.	0.	0.	0.	0.	0.	0.	9.22E-13	4.07E-16	0.	3.26E-11
86	2.20	0.	4.55E-11	0.	0.	0.	0.	0.	0.	0.	9.18E-13	4.65E-16	0.	4.65E-11
87	2.10	0.	1.25E-10	0.	0.	0.	0.	0.	0.	0.	9.10E-13	5.35E-16	0.	1.26E-10
88	2.00	0.	1.32E-10	0.	0.	0.	0.	0.	0.	0.	8.88E-13	6.19E-16	0.	1.32E-10
89	1.90	0.	5.70E-10	0.	0.	0.	0.	0.	0.	0.	8.54E-13	7.23E-16	0.	5.71E-10
90	1.80	0.	5.66E-10	0.	0.	0.	0.	0.	0.	0.	8.17E-13	8.51E-16	0.	5.67E-10
91	1.70	0.	5.94E-10	0.	0.	0.	0.	0.	0.	0.	7.70E-13	1.01E-15	0.	5.94E-10
92	1.60	0.	4.36E-10	0.	0.	0.	0.	0.	0.	0.	6.51E-13	1.21E-15	0.	4.37E-10
93	1.50	0.	5.08E-10	0.	0.	0.	0.	0.	0.	0.	2.96E-13	1.47E-15	0.	5.08E-10
94	1.40	0.	7.09E-10	0.	0.	0.	0.	0.	0.	0.	1.71E-13	1.81E-15	0.	7.09E-10
95	1.30	0.	3.99E-10	0.	0.	0.	0.	0.	0.	0.	1.01E-13	2.27E-15	0.	3.99E-10
96	1.20	0.	5.55E-10	0.	0.	0.	0.	0.	0.	0.	2.89E-15	2.89E-15	0.	5.55E-10
97	1.10	0.	3.07E-10	0.	0.	0.	0.	0.	0.	0.	3.76E-15	3.76E-15	0.	3.07E-10
98	1.00	0.	3.31E-10	0.	0.	0.	0.	0.	0.	0.	5.01E-15	5.01E-15	0.	3.32E-10
99	0.90	0.	2.25E-10	0.	0.	0.	0.	0.	0.	0.	6.89E-15	6.89E-15	0.	2.25E-10
100	0.80	0.	9.81E-11	0.	0.	0.	0.	0.	0.	0.	9.05E-15	9.05E-15	0.	1.01E-10
101	0.70	0.	2.90E-11	0.	0.	0.	0.	0.	0.	0.	1.48E-14	1.48E-14	0.	3.12E-11
102	0.60	0.	2.23E-13	0.	0.	0.	0.	0.	0.	0.	2.36E-14	2.36E-14	0.	7.56E-12

TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.293E-00 ( 1.0E-06 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 M-W NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	0.	0.	3.25E-08	0.	0.	0.	3.60E-14	2.02E-19	0.	0.	3.25E-08
2 10.60 0.	0.	0.	2.45E-08	0.	0.	0.	3.61E-14	2.08E-19	0.	0.	2.45E-08
3 10.50 0.	0.	0.	2.20E-08	0.	0.	0.	3.61E-14	2.14E-19	0.	0.	2.20E-08
4 10.40 0.	0.	0.	1.78E-08	0.	0.	0.	3.62E-14	2.20E-19	0.	0.	1.78E-08
5 10.30 0.	0.	0.	1.28E-08	0.	0.	0.	3.62E-14	2.27E-19	0.	0.	1.28E-08
6 10.20 0.	0.	0.	1.17E-08	0.	0.	0.	3.62E-14	2.33E-19	0.	0.	1.17E-08
7 10.10 0.	0.	0.	9.73E-09	0.	0.	0.	3.63E-14	2.40E-19	0.	0.	9.73E-09
8 10.00 0.	0.	0.	6.59E-09	0.	0.	0.	3.64E-14	2.48E-19	0.	0.	6.59E-09
9 9.90 0.	0.	0.	6.46E-09	0.	0.	0.	3.64E-14	2.55E-19	0.	0.	6.46E-09
10 9.80 0.	0.	0.	5.05E-09	0.	0.	0.	3.65E-14	2.63E-19	0.	0.	5.05E-09
11 9.70 0.	0.	0.	3.41E-09	0.	0.	0.	3.65E-14	2.72E-19	0.	0.	3.41E-09
12 9.60 0.	0.	0.	3.64E-09	0.	0.	0.	3.66E-14	2.80E-19	0.	0.	3.64E-09
13 9.50 0.	5.12E-12	2.38E-09	2.38E-09	0.	0.	0.	3.67E-14	2.89E-19	0.	0.	2.38E-09
14 9.40 0.	5.62E-12	1.90E-09	1.90E-09	0.	0.	0.	3.68E-14	2.99E-19	0.	0.	1.91E-09
15 9.30 0.	6.12E-12	1.84E-09	1.84E-09	0.	0.	0.	3.70E-14	3.09E-19	0.	0.	1.85E-09
16 9.20 0.	6.62E-12	1.08E-09	1.08E-09	0.	0.	0.	3.71E-14	3.19E-19	0.	0.	1.08E-09
17 9.10 0.	8.17E-12	1.14E-09	1.14E-09	0.	0.	0.	3.72E-14	3.29E-19	0.	0.	1.15E-09
18 9.00 0.	9.91E-12	8.06E-10	8.06E-10	0.	0.	0.	3.73E-14	3.41E-19	0.	0.	8.16E-10
19 8.90 0.	1.17E-11	6.23E-10	6.23E-10	0.	0.	0.	3.75E-14	3.52E-19	0.	0.	6.35E-10
20 8.80 0.	1.21E-11	5.59E-10	5.59E-10	0.	0.	0.	3.76E-14	3.65E-19	0.	0.	5.71E-10
21 8.70 0.	1.16E-11	3.62E-10	3.62E-10	0.	0.	0.	3.77E-14	3.77E-19	0.	0.	3.74E-10
22 8.60 0.	1.10E-11	3.65E-10	3.65E-10	0.	0.	0.	3.79E-14	3.91E-19	0.	0.	3.76E-10
23 8.50 0.	1.06E-11	2.38E-10	2.38E-10	0.	0.	0.	3.80E-14	4.05E-19	0.	0.	2.48E-10
24 8.40 0.	1.01E-11	2.22E-10	2.22E-10	0.	0.	0.	3.82E-14	4.19E-19	0.	0.	2.32E-10
25 8.30 0.	9.70E-12	1.44E-10	1.44E-10	0.	0.	0.	3.84E-14	4.35E-19	0.	0.	1.53E-10
26 8.20 0.	9.28E-12	1.33E-10	1.33E-10	0.	0.	0.	3.86E-14	4.51E-19	0.	0.	1.43E-10
27 8.10 0.	8.86E-12	9.00E-11	9.00E-11	0.	0.	0.	3.88E-14	4.68E-19	0.	0.	9.89E-11
28 8.00 0.	8.43E-12	8.14E-11	8.14E-11	0.	0.	0.	3.90E-14	4.86E-19	0.	0.	8.98E-11
29 7.90 0.	7.97E-12	5.55E-11	5.55E-11	0.	0.	0.	3.92E-14	5.05E-19	0.	0.	6.35E-11
30 7.80 0.	7.50E-12	5.13E-11	5.13E-11	0.	0.	0.	3.94E-14	5.24E-19	0.	0.	5.88E-11
31 7.70 0.	7.02E-12	3.62E-11	3.62E-11	0.	0.	0.	3.96E-14	5.45E-19	0.	0.	4.32E-11
32 7.60 0.	6.55E-12	2.94E-11	2.94E-11	0.	5.13E-15	0.	3.98E-14	5.67E-19	0.	0.	3.60E-11
33 7.50 0.	6.07E-12	2.22E-11	2.22E-11	0.	7.17E-14	0.	4.00E-14	5.90E-19	0.	0.	2.84E-11
34 7.40 0.	5.58E-12	1.69E-11	1.69E-11	0.	1.69E-13	0.	4.02E-14	6.14E-19	0.	0.	2.27E-11
35 7.30 0.	5.08E-12	1.34E-11	1.34E-11	0.	1.07E-12	0.	4.05E-14	6.40E-19	0.	0.	1.95E-11
36 7.20 0.	4.61E-12	9.98E-12	9.98E-12	0.	4.52E-12	0.	4.07E-14	6.67E-19	0.	0.	1.92E-11
37 7.10 0.	4.15E-12	8.05E-12	8.05E-12	0.	4.85E-12	0.	4.10E-14	6.96E-19	0.	0.	1.71E-11
38 7.00 1.30E-14	0.	6.10E-12	6.10E-12	0.	3.03E-11	0.	4.13E-14	7.26E-19	0.	0.	3.65E-11
39 6.90 2.27E-14	0.	4.66E-12	4.66E-12	0.	2.09E-11	0.	4.17E-14	7.58E-19	0.	0.	2.56E-11
40 6.80 1.74E-14	0.	3.67E-12	3.67E-12	0.	4.29E-11	0.	4.20E-14	7.92E-19	0.	0.	4.66E-11
41 6.70 1.12E-14	0.	2.64E-12	2.64E-12	0.	9.62E-11	0.	4.23E-14	8.28E-19	0.	0.	9.89E-11
42 6.60 6.10E-15	0.	1.95E-12	1.95E-12	0.	3.56E-11	0.	4.27E-14	8.66E-19	0.	0.	3.76E-11
43 6.50 3.08E-15	0.	1.21E-12	1.21E-12	0.	7.13E-11	0.	4.30E-14	9.07E-19	0.	0.	7.25E-11
44 6.40 1.48E-15	0.	5.86E-13	5.86E-13	1.37E-12	1.47E-10	0.	4.33E-14	9.50E-19	0.	0.	1.49E-10
45 6.30 7.18F-16	0.	2.43E-13	2.43E-13	5.07E-12	4.71E-11	0.	4.37E-14	9.97E-19	0.	0.	5.24E-11
46 6.20 2.74E-16	0.	9.23E-14	9.23E-14	5.93E-12	7.08E-11	0.	4.40E-14	1.05E-18	0.	0.	7.69E-11
47 6.10 1.03E-16	0.	3.10E-14	3.10E-14	1.46E-11	1.91E-10	0.	4.44E-14	1.10E-18	0.	0.	2.06E-10
48 6.00 3.66F-17	0.	6.32E-15	6.32E-15	9.77E-12	3.76E-11	0.	4.47E-14	1.15E-18	0.	0.	4.75E-11
49 5.90 7.94E-18	0.	4.36E-16	4.36E-16	1.32E-11	4.90E-11	0.	4.47E-14	1.21E-18	0.	0.	6.23E-11
50 5.80 9.70F-17	0.	1.02F-17	1.02F-17	1.64F-11	4.86E-11	0.	4.40E-14	1.28E-18	0.	0.	6.50E-11
51 5.70 7.01F-20	0.	0.	0.	1.53E-11	3.34E-11	0.	4.13E-14	1.35E-18	0.	0.	4.86E-11

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		5000.		DENSITY (GM/CC) 1.293E-00 ( 1.0E-06 NORMAL)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR	
PHOTON O2 S-R	N2	N2	N2+	N2	N2	N2	N2	N2	N2	N2	N2	N2	N2
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	BETA	GAMMA	VIB-ROT	NO	2	PHOTO-DEY (IONS)	N	P.E.	O	P.E.
52	5.60	2.96E-21	0.	0.	0.90E-12	0.35E-11	0.	0.	3.89E-14	1.42E-18	0.	0.	9.25E-11
53	5.50	0.	0.	0.	1.19E-11	1.02E-10	0.	0.	3.80E-14	1.50E-18	0.	0.	1.14E-10
54	5.40	0.	0.	0.	0.70E-12	3.65E-11	0.	0.	3.80E-14	1.58E-18	0.	0.	4.54E-11
55	5.30	0.	0.	0.	9.04E-12	0.30E-11	0.	0.	3.91E-14	1.68E-18	0.	0.	9.29E-11
56	5.20	0.	0.	0.	0.70E-12	3.14E-11	0.	0.	3.94E-14	1.77E-18	0.	0.	4.01E-11
57	5.10	0.	0.	0.	7.73E-12	4.45E-11	0.	0.	3.97E-14	1.88E-18	0.	0.	5.23E-11
58	5.00	2.61E-14	0.	0.	6.02E-12	3.79E-11	0.	6.25E-20	4.00E-14	2.00E-18	0.	0.	4.40E-11
59	4.90	5.11E-14	0.	0.	6.01E-12	2.72E-11	0.	6.25E-20	4.03E-14	2.12E-18	0.	0.	3.33E-11
60	4.80	7.66E-14	0.	0.	6.15E-12	2.66E-11	0.	6.25E-20	4.07E-14	2.26E-18	0.	0.	3.29E-11
61	4.70	8.30E-14	0.	0.	5.30E-12	1.60E-11	0.	6.25E-20	4.10E-14	2.40E-18	0.	0.	2.14E-11
62	4.60	9.36E-14	0.	0.	4.97E-12	1.72E-11	0.	6.25E-20	4.13E-14	2.56E-18	0.	0.	2.23E-11
63	4.50	8.30E-14	0.	2.93E-14	3.80E-12	9.01E-12	0.	6.25E-20	4.17E-14	2.74E-18	0.	0.	1.30E-11
64	4.40	7.39E-14	0.	1.66E-13	3.45E-12	0.26E-12	0.	6.25E-20	4.20E-14	2.93E-18	0.	0.	1.20E-11
65	4.30	5.88E-14	0.	2.10E-13	2.70E-12	3.36E-12	0.	6.25E-20	4.23E-14	3.14E-18	0.	0.	6.46E-12
66	4.20	4.81E-14	0.	1.51E-12	2.67E-12	3.37E-12	0.	6.25E-20	4.27E-14	3.37E-18	0.	0.	7.64E-12
67	4.10	3.96E-14	0.	2.13E-13	2.16E-12	0.10E-13	0.	6.25E-20	4.30E-14	3.63E-18	0.	0.	3.27E-12
68	4.00	3.13E-14	0.	1.90E-12	1.84E-12	5.47E-13	0.	6.25E-20	4.30E-14	3.90E-18	0.	0.	4.44E-12
69	3.90	2.22E-14	0.	1.03E-12	1.33E-12	3.05E-13	0.	6.25E-20	4.30E-14	4.21E-18	0.	0.	4.34E-12
70	3.80	2.22E-14	0.	9.53E-13	1.37E-12	0.	0.	6.25E-20	4.27E-14	4.56E-18	0.	0.	3.80E-11
71	3.70	1.53E-14	0.	2.03E-12	9.33E-13	0.	0.	6.25E-20	4.20E-14	4.94E-18	0.	0.	6.34E-12
72	3.60	1.20E-14	0.	4.75E-13	2.22E-11	0.33E-13	0.	6.25E-20	3.94E-14	5.36E-18	0.	0.	2.36E-11
73	3.50	9.57E-15	0.	1.21E-12	1.70E-10	5.23E-13	0.	6.25E-20	3.60E-14	5.83E-18	0.	0.	1.79E-10
74	3.40	7.09E-15	0.	3.01E-13	2.65E-12	5.77E-13	0.	6.25E-20	2.08E-14	6.36E-18	0.	0.	3.56E-12
75	3.30	5.07E-15	0.	4.59E-13	3.71E-11	3.41E-13	0.	6.25E-20	2.08E-14	6.96E-18	0.	0.	3.80E-11
76	3.20	3.61E-15	0.	1.52E-13	2.29E-10	3.33E-13	0.	6.25E-20	2.08E-14	7.64E-18	0.	0.	2.30E-10
77	3.10	2.89E-15	0.	1.41E-13	4.35E-12	2.47E-13	0.	6.25E-20	2.09E-14	8.40E-18	0.	0.	4.77E-12
78	3.00	2.12E-15	0.	5.41E-14	3.95E-11	1.93E-13	0.	6.25E-20	2.09E-14	9.27E-18	0.	0.	3.98E-11
79	2.90	1.43E-15	0.	3.35E-14	4.55E-11	1.04E-13	0.	6.25E-20	2.10E-14	1.03E-17	0.	0.	4.56E-11
80	2.80	1.29E-15	0.	1.20E-14	4.28E-12	4.79E-14	0.	6.25E-20	2.10E-14	1.14E-17	0.	0.	4.36E-12
81	2.70	6.06E-16	0.	6.12E-15	1.94E-11	1.67E-14	0.	6.25E-20	2.10E-14	1.27E-17	0.	0.	1.94E-11
82	2.60	1.91E-16	0.	2.88E-15	2.41E-12	4.91E-15	0.	6.25E-20	2.10E-14	1.43E-17	0.	0.	2.44E-12
83	2.50	1.13E-17	0.	5.13E-16	7.21E-13	9.05E-16	0.	6.25E-20	2.10E-14	1.60E-17	0.	0.	7.43E-13
84	2.40	0.	5.55E-14	0.	1.52E-12	7.87E-17	0.	6.25E-20	2.10E-14	1.81E-17	0.	0.	1.60E-12
85	2.30	0.	5.49E-13	0.	0.	0.	0.	6.25E-20	2.08E-14	2.06E-17	0.	0.	5.70E-13
86	2.20	0.	7.89E-13	0.	0.	0.	0.	6.25E-20	2.08E-14	2.36E-17	0.	0.	8.09E-13
87	2.10	0.	2.17E-12	0.	0.	0.	0.	6.25E-20	2.07E-14	2.71E-17	0.	0.	2.19E-12
88	2.00	0.	2.28E-12	0.	0.	0.	0.	6.25E-20	2.00E-14	3.14E-17	0.	0.	2.30E-12
89	1.90	0.	9.87E-12	0.	0.	0.	0.	6.25E-20	1.92E-14	3.68E-17	0.	0.	9.89E-12
90	1.80	0.	9.81E-12	0.	0.	0.	0.	6.25E-20	1.84E-14	4.31E-17	0.	0.	9.82E-12
91	1.70	0.	1.03E-11	0.	0.	0.	0.	6.25E-20	1.73E-14	5.12E-17	0.	0.	1.03E-11
92	1.60	0.	7.56E-12	0.	0.	0.	0.	6.25E-20	1.47E-14	6.15E-17	0.	0.	7.57E-12
93	1.50	0.	8.79E-12	0.	0.	0.	0.	6.25E-20	6.67E-15	7.47E-17	0.	0.	8.80E-12
94	1.40	0.	1.23E-11	0.	0.	0.	0.	6.25E-20	0.	9.19E-17	0.	0.	1.23E-11
95	1.30	0.	6.90E-12	0.	0.	0.	0.	6.25E-20	0.	1.13E-16	0.	0.	6.90E-12
96	1.20	0.	9.62E-12	0.	0.	0.	0.	6.25E-20	0.	1.46E-16	0.	0.	9.62E-12
97	1.10	0.	5.32E-12	0.	0.	0.	6.77E-16	6.25E-20	0.	1.91E-16	0.	0.	5.32E-12
98	1.00	0.	5.74E-12	0.	0.	0.	2.27E-15	6.25E-20	0.	2.54E-16	0.	0.	5.74E-12
99	0.90	0.	3.89E-12	0.	0.	0.	5.32E-15	6.25E-20	0.	3.49E-16	0.	0.	3.90E-12
100	0.80	0.	1.70E-12	0.	0.	0.	3.56E-14	6.25E-20	0.	4.99E-16	0.	0.	1.74E-12
101	0.70	0.	5.02E-13	0.	0.	0.	2.88E-14	6.25E-20	0.	7.49E-16	0.	0.	5.32E-13
102	0.60	0.	3.86E-15	0.	0.	0.	9.62E-14	6.25E-20	0.	1.19E-15	0.	0.	1.01E-13



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		6000.		DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)		NO 2		O- PHOTO-DET (IONS)		FREE-FREE N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1 10.70 0.		0.	1.30E 01	0.	0.	0.	0.	4.49E-02	6.38E-08	1.01E-07	2.92E-06	1.30E 01			
2 10.60 0.		0.	1.02E 01	0.	0.	0.	0.	4.50E-02	6.57E-08	1.01E-07	2.92E-06	1.03E 01			
3 10.50 0.		0.	9.45E 00	0.	0.	0.	0.	4.51E-02	6.75E-08	1.02E-07	2.93E-06	9.50E 00			
4 10.40 0.		0.	7.91E 00	0.	0.	0.	0.	4.51E-02	6.95E-08	1.02E-07	2.94E-06	7.96E 00			
5 10.30 0.		0.	5.95E 00	0.	0.	0.	0.	4.52E-02	7.16E-08	1.02E-07	2.94E-06	6.00E 00			
6 10.20 0.		0.	5.60E 00	0.	0.	0.	0.	4.52E-02	7.38E-08	1.02E-07	2.95E-06	5.65E 00			
7 10.10 0.		0.	4.80E 00	0.	0.	0.	0.	4.53E-02	7.60E-08	1.03E-07	2.95E-06	4.84E 00			
8 10.00 0.		0.	3.46E 00	0.	0.	0.	0.	4.54E-02	7.83E-08	1.03E-07	2.96E-06	3.53E 00			
9 9.90 0.		0.	3.43E 00	0.	0.	0.	0.	4.54E-02	8.07E-08	1.03E-07	2.97E-06	3.47E 00			
10 9.80 0.		0.	2.79E 00	0.	0.	0.	0.	4.55E-02	8.32E-08	1.03E-07	2.97E-06	2.84E 00			
11 9.70 0.		0.	2.00E 00	0.	0.	0.	0.	4.56E-02	8.58E-08	1.04E-07	2.98E-06	2.05E 00			
12 9.60 0.		0.	2.14E 00	0.	0.	0.	0.	4.57E-02	8.86E-08	1.04E-07	2.98E-06	2.18E 00			
13 9.50 0.		2.20E 01	1.49E 00	0.	0.	0.	0.	4.58E-02	9.14E-08	1.04E-07	2.99E-06	2.35E 01			
14 9.40 0.		2.42E 01	1.24E 00	0.	0.	0.	0.	4.59E-02	9.44E-08	1.04E-07	2.99E-06	2.54E 01			
15 9.30 0.		2.63E 01	1.21E 00	0.	0.	0.	0.	4.61E-02	9.74E-08	1.05E-07	3.00E-06	2.76E 01			
16 9.20 0.		2.85E 01	7.74E-01	0.	0.	0.	0.	4.63E-02	1.01E-07	2.74E-08	3.01E-06	2.94E 01			
17 9.10 0.		3.50E 01	8.07E-01	0.	0.	0.	0.	4.64E-02	1.04E-07	2.72E-08	3.01E-06	3.59E 01			
18 9.00 0.		4.23E 01	6.10E-01	0.	0.	0.	0.	4.66E-02	1.08E-07	2.71E-08	3.02E-06	4.29E 01			
19 8.90 0.		4.95E 01	4.48E-01	0.	0.	0.	0.	4.68E-02	1.11E-07	2.70E-08	3.02E-06	5.01E 01			
20 8.80 0.		5.15E 01	4.48E-01	0.	0.	0.	0.	4.69E-02	1.15E-07	2.69E-08	3.03E-06	5.20E 01			
21 8.70 0.		4.92E 01	3.13E-01	0.	0.	0.	0.	4.71E-02	1.19E-07	2.67E-08	3.04E-06	4.96E 01			
22 8.60 0.		4.70E 01	3.14E-01	0.	0.	0.	0.	4.73E-02	1.23E-07	2.66E-08	3.04E-06	4.74E 01			
23 8.50 0.		4.53E 01	2.21E-01	0.	0.	0.	0.	4.74E-02	1.28E-07	2.65E-08	3.05E-06	4.55E 01			
24 8.40 0.		4.37E 01	2.08E-01	0.	0.	0.	0.	4.77E-02	1.32E-07	2.64E-08	3.05E-06	4.40E 01			
25 8.30 0.		4.18E 01	1.44E-01	0.	0.	0.	0.	4.79E-02	1.37E-07	2.62E-08	3.07E-06	4.20E 01			
26 8.20 0.		4.00E 01	1.36E-01	0.	0.	0.	0.	4.82E-02	1.42E-07	2.61E-08	3.12E-06	4.02E 01			
27 8.10 0.		3.84E 01	9.74E-02	0.	0.	0.	0.	4.84E-02	1.48E-07	2.59E-08	3.16E-06	3.86E 01			
28 8.00 0.		3.68E 01	9.04E-02	0.	0.	0.	0.	4.87E-02	1.53E-07	2.57E-08	3.20E-06	3.69E 01			
29 7.90 0.		3.49E 01	6.51E-02	0.	0.	0.	0.	4.89E-02	1.59E-07	2.55E-08	3.24E-06	3.51E 01			
30 7.80 0.		3.31E 01	6.18E-02	0.	0.	0.	0.	4.92E-02	1.65E-07	2.53E-08	3.29E-06	3.32E 01			
31 7.70 0.		3.12E 01	4.58E-02	0.	0.	0.	0.	4.94E-02	1.72E-07	2.52E-08	3.33E-06	3.13E 01			
32 7.60 0.		2.93E 01	3.86E-02	0.	2.94E-04	0.	0.	4.97E-02	1.79E-07	2.50E-08	3.37E-06	2.94E 01			
33 7.50 0.		2.74E 01	3.06E-02	0.	2.93E-03	0.	0.	4.99E-02	1.86E-07	2.48E-08	3.42E-06	2.74E 01			
34 7.40 0.		2.54E 01	2.42E-02	0.	8.26E-03	0.	0.	5.02E-02	1.94E-07	2.46E-08	3.46E-06	2.55E 01			
35 7.30 0.		2.35E 01	2.00E-02	0.	5.28E-02	0.	0.	5.05E-02	2.02E-07	2.45E-08	3.50E-06	2.37E 01			
36 7.20 0.		2.18E 01	1.56E-02	0.	1.82E-01	0.	0.	5.08E-02	2.10E-07	2.43E-08	3.54E-06	2.20E 01			
37 7.10 0.		2.01E 01	1.31E-02	0.	2.77E-01	0.	0.	5.12E-02	2.20E-07	2.41E-08	3.59E-06	2.04E 01			
38 7.00 0.	4.53E-02	0.	1.04E-02	0.	1.31E 00	0.	0.	5.16E-02	2.29E-07	2.39E-08	3.63E-06	1.41E 00			
39 6.90 0.	8.12E-02	0.	8.30E-03	0.	9.44E-01	0.	0.	5.20E-02	2.39E-07	2.38E-08	3.67E-06	1.09E 00			
40 6.80 0.	6.41E-02	0.	6.86E-03	0.	2.14E 00	0.	0.	5.24E-02	2.50E-07	2.36E-08	3.72E-06	2.26E 00			
41 6.70 0.	4.24E-02	0.	5.17E-03	0.	3.89E 00	0.	0.	5.28E-02	2.61E-07	2.34E-08	3.76E-06	3.99E 00			
42 6.60 0.	2.37E-02	0.	3.98E-03	0.	1.58E 00	0.	0.	5.33E-02	2.74E-07	2.33E-08	3.81E-06	1.66E 00			
43 6.50 0.	1.22E-02	0.	2.62E-03	0.	3.30E 00	0.	0.	5.37E-02	2.86E-07	2.32E-08	3.85E-06	3.37E 00			
44 6.40 0.	6.14E-03	0.	1.38E-03	4.33E-02	5.58E 00	0.	0.	5.41E-02	3.00E-07	2.31E-08	3.89E-06	5.68E 00			
45 6.30 0.	3.11E-03	0.	6.33E-04	1.70E-01	1.97E 00	0.	0.	5.45E-02	3.15E-07	2.29E-08	3.95E-06	2.19E 00			
46 6.20 0.	1.23E-03	0.	2.65E-04	2.06E-01	3.16E 00	0.	0.	5.49E-02	3.30E-07	2.28E-08	4.04E-06	3.42E 00			
47 6.10 0.	4.87E-04	0.	9.67E-05	5.28E-01	6.98E 00	0.	0.	5.53E-02	3.47E-07	2.29E-08	4.12E-06	7.56E 00			
48 6.00 0.	1.81E-04	0.	7.08E-05	3.82E-01	1.69E 00	0.	0.	5.58E-02	3.64E-07	2.30E-08	4.21E-06	2.13E 00			
49 5.90 0.	4.02E-05	0.	1.46E-06	5.21E-01	2.08E 00	0.	0.	5.58E-02	3.83E-07	2.30E-08	4.30E-06	2.66E 00			
50 5.80 0.	4.96E-06	0.	3.46E-08	6.66E-01	1.96E 00	0.	0.	5.49E-02	4.03E-07	2.31E-08	4.38E-06	2.68E 00			
51 5.70 0.	3.61E-07	0.	0.	6.53E-01	1.64E 00	0.	0.	5.16E-02	4.25E-07	2.31E-08	4.47E-06	2.34E 00			



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		6000.		DENSITY (GM/CC) 1.293E-03 (1.0E 00 NORMAL)		O- PHOTO-DET (IONS)		FREE-FREE M		TOTAL AIR	
PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 B-H NO. 1	BETA	GAMMA	NO	NO	NO	NO	U	P.E.
1 10.70 0.			1.32E 00	0.	0.	0.	1.61E-03	2.98E-09	3.22E-08	4.26E-07	1.33E 00
2 10.60 0.			1.04E 00	0.	0.	0.	1.61E-03	3.07E-09	3.23E-08	4.27E-07	1.05E 00
3 10.50 0.			9.66E-01	0.	0.	0.	1.61E-03	3.15E-09	3.25E-08	4.28E-07	9.66E-01
4 10.40 0.			8.07E-01	0.	0.	0.	1.61E-03	3.25E-09	3.26E-08	4.29E-07	8.09E-01
5 10.30 0.			6.07E-01	0.	0.	0.	1.62E-03	3.34E-09	3.27E-08	4.30E-07	6.09E-01
6 10.20 0.			5.71E-01	0.	0.	0.	1.62E-03	3.44E-09	3.27E-08	4.31E-07	5.73E-01
7 10.10 0.			4.89E-01	0.	0.	0.	1.62E-03	3.55E-09	3.28E-08	4.32E-07	4.91E-01
8 10.00 0.			3.53E-01	0.	0.	0.	1.62E-03	3.66E-09	3.29E-08	4.33E-07	3.54E-01
9 9.90 0.			3.49E-01	0.	0.	0.	1.63E-03	3.77E-09	3.30E-08	4.33E-07	3.51E-01
10 9.80 0.			2.85E-01	0.	0.	0.	1.63E-03	3.89E-09	3.30E-08	4.34E-07	2.86E-01
11 9.70 0.			2.04E-01	0.	0.	0.	1.63E-03	4.01E-09	3.31E-08	4.35E-07	2.06E-01
12 9.60 0.			2.18E-01	0.	0.	0.	1.63E-03	4.13E-09	3.32E-08	4.36E-07	2.20E-01
13 9.50 0.		4.72E-01	1.52E-01	0.	0.	0.	1.64E-03	4.27E-09	3.33E-08	4.37E-07	6.25E-01
14 9.40 0.		5.19E-01	1.26E-01	0.	0.	0.	1.64E-03	4.40E-09	3.33E-08	4.38E-07	6.47E-01
15 9.30 0.		5.66E-01	1.24E-01	0.	0.	0.	1.65E-03	4.55E-09	8.79E-09	4.39E-07	6.92E-01
16 9.20 0.		6.13E-01	7.89E-02	0.	0.	0.	1.66E-03	4.70E-09	8.75E-09	4.40E-07	6.94E-01
17 9.10 0.		7.52E-01	8.23E-02	0.	0.	0.	1.66E-03	4.86E-09	8.71E-09	4.40E-07	8.36E-01
18 9.00 0.		9.08E-01	6.22E-02	0.	0.	0.	1.67E-03	5.02E-09	8.67E-09	4.41E-07	9.72E-01
19 8.90 0.		1.06E 00	4.98E-02	0.	0.	0.	1.67E-03	5.19E-09	8.63E-09	4.42E-07	1.12E 00
20 8.80 0.		1.11E 00	4.57E-02	0.	0.	0.	1.68E-03	5.37E-09	8.59E-09	4.43E-07	1.15E 00
21 8.70 0.		1.05E 00	3.19E-02	0.	0.	0.	1.69E-03	5.56E-09	8.55E-09	4.44E-07	1.09E 00
22 8.60 0.		1.01E 00	3.21E-02	0.	0.	0.	1.69E-03	5.76E-09	8.51E-09	4.45E-07	1.04E 00
23 8.50 0.		9.72E-01	2.25E-02	0.	0.	0.	1.70E-03	5.96E-09	8.47E-09	4.46E-07	9.97E-01
24 8.40 0.		9.40E-01	2.12E-02	0.	0.	0.	1.71E-03	6.18E-09	8.42E-09	4.47E-07	9.63E-01
25 8.30 0.		8.98E-01	1.47E-02	0.	0.	0.	1.71E-03	6.41E-09	8.38E-09	4.49E-07	9.14E-01
26 8.20 0.		8.60E-01	1.39E-02	0.	0.	0.	1.72E-03	6.64E-09	8.34E-09	4.55E-07	8.76E-01
27 8.10 0.		8.26E-01	9.94E-03	0.	0.	0.	1.73E-03	6.89E-09	8.27E-09	4.62E-07	8.37E-01
28 8.00 0.		7.91E-01	9.21E-03	0.	0.	0.	1.74E-03	7.16E-09	8.21E-09	4.68E-07	8.02E-01
29 7.90 0.		7.51E-01	6.64E-03	0.	0.	0.	1.75E-03	7.43E-09	8.15E-09	4.74E-07	7.59E-01
30 7.80 0.		7.11E-01	6.30E-03	0.	0.	0.	1.76E-03	7.72E-09	8.09E-09	4.81E-07	7.19E-01
31 7.70 0.		6.70E-01	4.68E-03	0.	0.	0.	1.77E-03	8.03E-09	8.04E-09	4.87E-07	6.76E-01
32 7.60 0.		6.29E-01	3.94E-03	0.	0.	0.	1.78E-03	8.35E-09	7.98E-09	4.93E-07	6.35E-01
33 7.50 0.		5.88E-01	3.12E-03	0.	0.	0.	1.79E-03	8.69E-09	7.93E-09	4.99E-07	5.93E-01
34 7.40 0.		5.47E-01	2.47E-03	0.	0.	0.	1.80E-03	9.05E-09	7.87E-09	5.06E-07	5.51E-01
35 7.30 0.		5.06E-01	2.04E-03	0.	0.	0.	1.81E-03	9.43E-09	7.82E-09	5.12E-07	5.12E-01
36 7.20 0.		4.68E-01	1.59E-03	0.	0.	0.	1.82E-03	9.83E-09	7.76E-09	5.18E-07	4.80E-01
37 7.10 0.		4.31E-01	1.34E-03	0.	0.	0.	1.83E-03	1.02E-08	7.71E-09	5.25E-07	4.47E-01
38 7.00 9.67E-04		0.	1.06E-03	0.	0.	0.	1.85E-03	1.07E-08	7.65E-09	5.31E-07	6.48E-02
39 6.90 1.37E-03		0.	8.47E-04	0.	0.	0.	1.86E-03	1.12E-08	7.59E-09	5.37E-07	4.85E-02
40 6.80 1.37E-03		0.	7.00E-04	0.	0.	0.	1.88E-03	1.17E-08	7.54E-09	5.43E-07	1.04E-01
41 6.70 9.02E-04		0.	5.27E-04	0.	0.	0.	1.89E-03	1.22E-08	7.48E-09	5.50E-07	1.85E-01
42 6.60 5.05E-04		0.	4.05E-04	0.	0.	0.	1.91E-03	1.28E-08	7.44E-09	5.56E-07	7.67E-02
43 6.50 2.63E-04		0.	2.67E-04	0.	0.	0.	1.92E-03	1.34E-08	7.40E-09	5.63E-07	1.56E-01
44 6.40 1.31E-04		0.	1.41E-04	0.	0.	0.	1.94E-03	1.40E-08	7.37E-09	5.69E-07	2.65E-01
45 6.30 6.64E-05		0.	6.46E-05	0.	0.	0.	1.95E-03	1.47E-08	7.33E-09	5.78E-07	1.02E-01
46 6.20 2.63E-05		0.	2.70E-05	0.	0.	0.	1.97E-03	1.54E-08	7.30E-09	5.90E-07	1.59E-01
47 6.10 1.04E-05		0.	9.86E-06	0.	0.	0.	1.98E-03	1.62E-08	7.31E-09	6.03E-07	3.52E-01
48 6.00 3.83E-06		0.	2.12E-06	0.	0.	0.	1.99E-03	1.70E-08	7.34E-09	6.15E-07	9.88E-02
49 5.90 8.58E-07		0.	1.48E-07	0.	0.	0.	1.99E-03	1.79E-08	7.36E-09	6.28E-07	1.24E-01
50 5.80 1.06E-07		0.	3.52E-09	0.	0.	0.	1.97E-03	1.88E-08	7.38E-09	6.40E-07	1.24E-01
51 5.70 7.7 E-09		0.	0.	0.	0.	0.	1.85E-03	1.98E-08	7.39E-09	6.53E-07	1.09E-01



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)					
PHOTON ENERGY E.V.	O2 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	1.27E-01	0.	0.	0.	3.49E-05	1.03E-10	9.97E-09	4.82E-08 1.27E-01
2 10.60 0.	0.	1.00E-01	0.	0.	0.	3.49E-05	1.02E-10	1.00E-08	4.83E-08 1.00E-01
3 10.50 0.	0.	9.27E-02	0.	0.	0.	3.50E-05	1.11E-10	1.01E-08	4.84E-08 9.27E-02
4 10.40 0.	0.	7.76E-02	0.	0.	0.	3.50E-05	1.15E-10	1.01E-08	4.85E-08 7.76E-02
5 10.30 0.	0.	5.84E-02	0.	0.	0.	3.51E-05	1.18E-10	1.01E-08	4.86E-08 5.84E-02
6 10.20 0.	0.	5.49E-02	0.	0.	0.	3.51E-05	1.22E-10	1.02E-08	4.87E-08 5.49E-02
7 10.10 0.	0.	4.71E-02	0.	0.	0.	3.52E-05	1.25E-10	1.02E-08	4.88E-08 4.71E-02
8 10.00 0.	0.	3.39E-02	0.	0.	0.	3.52E-05	1.29E-10	1.02E-08	4.89E-08 3.39E-02
9 9.90 0.	0.	3.36E-02	0.	0.	0.	3.53E-05	1.33E-10	1.02E-08	4.90E-08 3.36E-02
10 9.80 0.	0.	2.74E-02	0.	0.	0.	3.54E-05	1.37E-10	1.02E-08	4.91E-08 2.74E-02
11 9.70 0.	0.	1.96E-02	0.	0.	0.	3.54E-05	1.42E-10	1.03E-08	4.92E-08 1.97E-02
12 9.60 0.	0.	2.10E-02	0.	0.	0.	3.55E-05	1.46E-10	1.03E-08	4.93E-08 2.10E-02
13 9.50 0.	6.02E-03	1.46E-02	0.	0.	0.	3.55E-05	1.51E-10	1.03E-08	4.94E-08 2.07E-02
14 9.40 0.	6.63E-03	1.21E-02	0.	0.	0.	3.57E-05	1.56E-10	1.03E-08	4.95E-08 1.88E-02
15 9.30 0.	7.23E-03	1.19E-02	0.	0.	0.	3.58E-05	1.61E-10	2.72E-09	4.96E-08 1.92E-02
16 9.20 0.	7.83E-03	7.59E-03	0.	0.	0.	3.59E-05	1.66E-10	2.71E-09	4.97E-08 1.55E-02
17 9.10 0.	9.60E-03	7.92E-03	0.	0.	0.	3.61E-05	1.72E-10	2.70E-09	4.98E-08 1.76E-02
18 9.00 0.	1.16E-02	5.98E-03	0.	0.	0.	3.62E-05	1.77E-10	2.69E-09	4.99E-08 1.76E-02
19 8.90 0.	1.36E-02	4.79E-03	0.	0.	0.	3.63E-05	1.84E-10	2.67E-09	5.00E-08 1.84E-02
20 8.80 0.	1.41E-02	4.40E-03	0.	0.	0.	3.64E-05	1.90E-10	2.66E-09	5.01E-08 1.86E-02
21 8.70 0.	1.35E-02	3.07E-03	0.	0.	0.	3.66E-05	1.97E-10	2.65E-09	5.02E-08 1.66E-02
22 8.60 0.	1.29E-02	3.08E-03	0.	0.	0.	3.67E-05	2.04E-10	2.64E-09	5.03E-08 1.60E-02
23 8.50 0.	1.24E-02	2.17E-03	0.	0.	0.	3.68E-05	2.11E-10	2.62E-09	5.04E-08 1.46E-02
24 8.40 0.	1.20E-02	2.04E-03	0.	0.	0.	3.70E-05	2.18E-10	2.61E-09	5.05E-08 1.41E-02
25 8.30 0.	1.15E-02	1.41E-03	0.	0.	0.	3.72E-05	2.26E-10	2.60E-09	5.07E-08 1.29E-02
26 8.20 0.	1.10E-02	1.34E-03	0.	0.	0.	3.74E-05	2.35E-10	2.59E-09	5.14E-08 1.24E-02
27 8.10 0.	1.05E-02	9.55E-04	0.	0.	0.	3.76E-05	2.44E-10	2.57E-09	5.22E-08 1.15E-02
28 8.00 0.	1.01E-02	8.86E-04	0.	0.	0.	3.78E-05	2.53E-10	2.55E-09	5.29E-08 1.10E-02
29 7.90 0.	9.59E-03	6.39E-04	0.	0.	0.	3.80E-05	2.63E-10	2.53E-09	5.36E-08 1.03E-02
30 7.80 0.	9.07E-03	6.06E-04	0.	0.	0.	3.82E-05	2.73E-10	2.51E-09	5.43E-08 9.72E-03
31 7.70 0.	8.55E-03	4.50E-04	0.	0.	0.	3.84E-05	2.84E-10	2.49E-09	5.50E-08 9.04E-03
32 7.60 0.	8.03E-03	3.79E-04	0.	4.81E-07	0.	3.86E-05	2.95E-10	2.47E-09	5.57E-08 8.45E-03
33 7.50 0.	7.51E-03	3.00E-04	0.	4.79E-06	0.	3.88E-05	3.07E-10	2.46E-09	5.64E-08 7.85E-03
34 7.40 0.	6.98E-03	2.38E-04	0.	1.35E-05	0.	3.90E-05	3.20E-10	2.44E-09	5.71E-08 7.27E-03
35 7.30 0.	6.46E-03	1.96E-04	0.	8.64E-05	0.	3.92E-05	3.33E-10	2.42E-09	5.78E-08 6.78E-03
36 7.20 0.	5.98E-03	1.53E-04	0.	2.97E-04	0.	3.94E-05	3.47E-10	2.41E-09	5.85E-08 6.47E-03
37 7.10 0.	5.51E-03	1.29E-04	0.	4.53E-04	0.	3.97E-05	3.62E-10	2.39E-09	5.93E-08 6.13E-03
38 7.00 1.23E-05	0.	1.02E-04	0.	2.14E-03	0.	4.01E-05	3.78E-10	2.37E-09	6.00E-08 2.29E-03
39 6.90 2.27E-05	0.	8.14E-05	0.	2.14E-03	0.	4.04E-05	3.95E-10	2.35E-09	6.07E-08 1.69E-03
40 6.80 1.75E-05	0.	6.73E-05	0.	3.50E-03	0.	4.07E-05	4.13E-10	2.34E-09	6.14E-08 3.62E-03
41 6.70 1.15E-05	0.	5.07E-05	0.	6.36E-03	0.	4.10E-05	4.32E-10	2.32E-09	6.21E-08 6.46E-03
42 6.60 6.44E-06	0.	3.90E-05	0.	2.59E-03	0.	4.14E-05	4.52E-10	2.31E-09	6.29E-08 2.68E-03
43 6.50 3.35E-06	0.	2.57E-05	0.	5.39E-03	0.	4.17E-05	4.73E-10	2.30E-09	6.36E-08 5.46E-03
44 6.40 1.67E-06	0.	1.35E-05	7.0E-05	9.12E-03	0.	4.20E-05	4.95E-10	2.28E-09	6.43E-08 9.25E-03
45 6.30 8.40E-07	0.	6.21E-06	2.77E-04	3.22E-03	0.	4.23E-05	5.19E-10	2.27E-09	6.53E-08 3.54E-03
46 6.20 3.36E-07	0.	2.60E-06	3.38E-04	5.16E-03	0.	4.27E-05	5.45E-10	2.26E-09	6.67E-08 5.55E-03
47 6.10 1.35E-07	0.	9.48E-07	8.63E-04	1.14E-02	0.	4.30E-05	5.72E-10	2.27E-09	6.81E-08 1.23E-02
48 6.00 4.91E-08	0.	2.04E-07	6.25E-04	2.77E-03	0.	4.33E-05	6.01E-10	2.27E-09	6.95E-08 3.43E-03
49 5.90 1.15E-08	0.	1.43E-08	8.52E-04	3.41E-03	0.	4.33E-05	6.33E-10	2.28E-09	7.09E-08 4.35E-03
50 5.80 1.35E-09	0.	3.39E-10	1.09E-04	3.20E-03	0.	4.27E-05	6.66E-10	2.29E-09	7.24E-08 4.34E-03
51 5.70 9.85E-11	0.	0.	1.07E-03	2.68E-03	0.	4.01E-05	7.02E-10	2.29E-09	7.38E-08 3.78E-03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		6000.		DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR				
PHOTON O2 S-R	N2	N2	N2+	N2	BETA	NO	GAMMA	NO	VIB-ROT	NO	2	PHOTO-DET (IONS)	N	P.E.	Q	P.E.
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.
52	5.60	4.21E-12	0.	0.	6.79E-04	5.66E-03	0.	0.	0.	0.	0.	3.73E-05	7.40E-10	2.30E-09	7.52E-08	6.38E-03
53	5.50	0.	0.	0.	8.71E-04	6.24E-03	0.	0.	0.	0.	0.	3.75E-05	7.81E-10	2.30E-09	7.66E-08	7.14E-03
54	5.40	0.	0.	0.	6.72E-04	2.84E-03	0.	0.	0.	0.	0.	3.76E-05	8.26E-10	2.31E-09	7.81E-08	3.55E-03
55	5.30	0.	0.	0.	6.94E-04	5.50E-03	0.	0.	0.	0.	0.	3.79E-05	8.73E-10	2.32E-09	7.97E-08	6.24E-03
56	5.20	0.	0.	0.	6.86E-04	2.35E-03	0.	0.	0.	0.	0.	3.81E-05	9.25E-10	2.33E-09	8.18E-08	3.07E-03
57	5.10	0.	0.	0.	6.30E-04	3.36E-03	0.	0.	0.	0.	0.	3.85E-05	9.80E-10	2.39E-09	8.39E-08	4.03E-03
58	5.00	4.11E-05	0.	0.	5.13E-04	2.81E-03	0.	0.	0.	0.	0.	3.88E-05	1.04E-09	2.45E-09	8.50E-08	3.41E-03
59	4.90	8.46E-05	0.	0.	5.25E-04	2.31E-03	0.	0.	0.	0.	0.	3.91E-05	1.11E-09	2.51E-09	8.81E-08	2.96E-03
60	4.80	1.33E-04	0.	0.	5.40E-04	2.18E-03	0.	0.	0.	0.	0.	3.94E-05	1.18E-09	2.56E-09	9.02E-08	2.89E-03
61	4.70	1.52E-04	0.	0.	4.81E-04	1.51E-03	0.	0.	0.	0.	0.	3.97E-05	1.25E-09	2.61E-09	9.24E-08	2.18E-03
62	4.60	1.79E-04	0.	0.	4.60E-04	1.52E-03	0.	0.	0.	0.	0.	4.01E-05	1.34E-09	2.67E-09	9.46E-08	2.20E-03
63	4.50	1.65E-04	0.	0.	3.66E-04	9.10E-04	0.	0.	0.	0.	0.	4.04E-05	1.43E-09	2.73E-09	9.69E-08	1.48E-03
64	4.40	1.53E-04	0.	0.	3.42E-04	7.66E-04	0.	0.	0.	0.	0.	4.07E-05	1.53E-09	2.80E-09	9.91E-08	1.31E-03
65	4.30	1.27E-04	0.	0.	2.86E-04	3.53E-04	0.	0.	0.	0.	0.	4.10E-05	1.64E-09	2.87E-09	1.01E-07	8.15E-04
66	4.20	1.07E-04	0.	0.	2.83E-04	3.28E-04	0.	0.	0.	0.	0.	4.14E-05	1.76E-09	2.93E-09	3.93E-09	8.04E-04
67	4.10	9.07E-05	0.	0.	2.39E-04	7.96E-05	0.	0.	0.	0.	0.	4.15E-05	1.89E-09	1.59E-09	4.06E-09	4.59E-04
68	4.00	7.44E-05	0.	0.	2.09E-04	5.73E-05	0.	0.	0.	0.	0.	4.17E-05	2.04E-09	1.61E-09	4.18E-09	4.42E-04
69	3.90	5.45E-05	0.	0.	2.80E-05	1.61E-04	2.93E-05	0.	0.	0.	0.	4.15E-05	2.20E-09	1.31E-09	4.31E-09	3.14E-04
70	3.80	5.63E-05	0.	0.	2.87E-05	1.37E-06	1.66E-04	0.	0.	0.	0.	4.14E-05	2.37E-09	1.32E-09	4.44E-09	2.94E-04
71	3.70	4.12E-05	0.	0.	5.50E-05	2.11E-07	1.10E-04	0.	0.	0.	0.	4.07E-05	2.57E-09	7.95E-10	5.17E-09	2.47E-04
72	3.60	3.34E-05	0.	0.	1.71E-05	1.15E-06	1.22E-04	0.	0.	0.	0.	3.81E-05	2.79E-09	8.92E-10	6.02E-09	2.12E-04
73	3.50	2.76E-05	0.	0.	3.62E-05	6.69E-06	7.43E-05	0.	0.	0.	0.	3.49E-05	3.04E-09	1.03E-09	6.90E-09	1.80E-04
74	3.40	2.15E-05	0.	0.	1.16E-05	1.75E-07	8.18E-05	0.	0.	0.	0.	2.01E-05	3.32E-09	1.17E-09	7.81E-09	1.35E-04
75	3.30	1.58E-05	0.	0.	1.54E-05	1.76E-06	5.23E-05	0.	0.	0.	0.	2.02E-05	3.63E-09	1.32E-09	8.73E-09	1.06E-04
76	3.20	1.18E-05	0.	0.	6.27E-06	8.12E-06	5.15E-05	0.	0.	0.	0.	2.02E-05	3.98E-09	1.46E-09	9.66E-09	9.81E-05
77	3.10	9.84E-06	0.	0.	5.31E-06	2.80E-07	4.09E-05	0.	0.	0.	0.	2.02E-05	4.38E-09	1.61E-09	1.06E-08	7.67E-05
78	3.00	7.57E-06	0.	0.	2.38E-06	1.85E-06	3.31E-05	0.	0.	0.	0.	2.03E-05	4.84E-09	1.75E-09	1.15E-08	6.54E-05
79	2.90	5.39E-06	0.	0.	1.41E-06	1.75E-06	1.95E-05	0.	0.	0.	0.	2.03E-05	5.36E-09	1.90E-09	1.25E-08	4.85E-05
80	2.80	5.01E-06	0.	0.	5.95E-07	2.63E-07	9.82E-06	0.	0.	0.	0.	2.04E-05	5.95E-09	2.05E-09	1.34E-08	3.62E-05
81	2.70	2.54E-06	0.	0.	2.75E-07	9.12E-07	3.83E-06	0.	0.	0.	0.	2.04E-05	6.64E-09	2.21E-09	1.43E-08	2.81E-05
82	2.60	8.82E-07	0.	0.	1.37E-07	9.91E-08	1.25E-06	0.	0.	0.	0.	2.04E-05	7.44E-09	2.37E-09	2.34E-09	2.29E-05
83	2.50	5.44E-08	0.	0.	2.17E-08	4.22E-08	2.46E-07	0.	0.	0.	0.	2.04E-05	8.37E-09	7.04E-10	2.67E-09	2.09E-05
84	2.40	0.	0.	0.	1.89E-06	7.24E-08	2.26E-08	0.	0.	0.	0.	2.02E-05	9.47E-09	8.87E-10	3.30E-09	2.25E-05
85	2.30	0.	0.	0.	1.41E-05	0.	0.	0.	0.	0.	0.	2.02E-05	1.08E-08	1.08E-09	3.94E-09	3.44E-05
86	2.20	0.	0.	0.	2.31E-05	0.	0.	0.	0.	0.	0.	2.01E-05	1.23E-08	1.27E-09	4.73E-09	4.34E-05
87	2.10	0.	0.	0.	5.03E-05	0.	0.	0.	0.	0.	0.	2.00E-05	1.42E-08	1.48E-09	5.52E-09	7.04E-05
88	2.00	0.	0.	0.	6.16E-05	0.	0.	0.	0.	0.	0.	1.94E-05	1.64E-08	1.68E-09	6.31E-09	8.12E-05
89	1.90	0.	0.	0.	2.04E-04	0.	0.	0.	0.	0.	0.	1.86E-05	1.91E-08	1.89E-09	7.10E-09	2.23E-04
90	1.80	0.	0.	0.	1.82E-04	0.	0.	0.	0.	0.	0.	1.78E-05	2.25E-08	2.18E-09	8.25E-09	2.00E-04
91	1.70	0.	0.	0.	2.08E-04	0.	0.	0.	0.	0.	0.	1.68E-05	2.68E-08	2.53E-09	9.63E-09	2.25E-04
92	1.60	0.	0.	0.	1.45E-04	0.	0.	0.	0.	0.	0.	1.42E-05	3.22E-08	2.87E-09	9.94E-09	1.60E-04
93	1.50	0.	0.	0.	1.78E-04	0.	0.	0.	0.	0.	0.	1.20E-05	3.91E-08	2.99E-09	1.17E-08	1.85E-04
94	1.40	0.	0.	0.	2.21E-04	0.	0.	0.	0.	0.	0.	8.82E-06	4.82E-08	1.66E-09	6.96E-09	2.21E-04
95	1.30	0.	0.	0.	1.40E-04	0.	0.	0.	0.	0.	0.	6.03E-08	2.31E-08	2.31E-09	9.42E-09	1.40E-04
96	1.20	0.	0.	0.	1.70E-04	0.	0.	0.	0.	0.	0.	7.67E-08	3.02E-09	1.00E-08	1.00E-08	1.71E-04
97	1.10	0.	0.	0.	1.10E-04	0.	0.	0.	0.	0.	0.	9.98E-08	3.46E-09	1.26E-08	1.10E-08	1.10E-04
98	1.00	0.	0.	0.	1.11E-04	0.	0.	0.	0.	0.	0.	1.33E-07	4.15E-09	1.51E-08	1.11E-08	1.10E-04
99	0.90	0.	0.	0.	8.13E-05	0.	0.	0.	0.	0.	0.	1.83E-07	4.84E-09	1.77E-08	8.20E-05	8.20E-05
100	0.80	0.	0.	0.	3.63E-05	0.	0.	0.	0.	0.	0.	2.62E-07	5.50E-09	2.02E-08	4.06E-05	4.06E-05
101	0.70	0.	0.	0.	1.05E-05	0.	0.	0.	0.	0.	0.	3.93E-07	4.40E-09	1.49E-08	1.49E-08	1.36E-05
102	0.60	0.	0.	0.	1.68E-07	0.	0.	0.	0.	0.	0.	6.28E-07	4.94E-09	1.68E-08	1.68E-08	1.14E-05

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		6000.	DENSITY (GM/CC)		1.293E-05		(10.0E-03 NORMAL)		O-		FREE-FREE		N		O		TOTAL AIR	
PHOTON 02 S-R		02 S-R	N2 B-H		NO		NO		PHOTO-DET		(IONS)		P.E.		P.E.		P.E.	
E.V.		CONT.	NO. 1		BETA		GAMMA		2									
1	10.70	0.	1.06E-02	0.	0.	0.	0.	0.	0.	0.	6.44E-07	3.33E-12	2.87E-09	4.99E-09	4.99E-09	1.06E-02	0.	0.
2	10.60	0.	8.34E-03	0.	0.	0.	0.	0.	0.	0.	6.44E-07	3.42E-12	2.89E-09	5.00E-09	5.00E-09	8.34E-03	0.	0.
3	10.50	0.	7.70E-03	0.	0.	0.	0.	0.	0.	0.	6.45E-07	3.52E-12	2.90E-09	5.01E-09	5.01E-09	7.70E-03	0.	0.
4	10.40	0.	6.45E-03	0.	0.	0.	0.	0.	0.	0.	6.46E-07	3.63E-12	2.91E-09	5.02E-09	5.02E-09	6.45E-03	0.	0.
5	10.30	0.	4.85E-03	0.	0.	0.	0.	0.	0.	0.	6.47E-07	3.73E-12	2.92E-09	5.03E-09	5.03E-09	4.85E-03	0.	0.
6	10.20	0.	4.56E-03	0.	0.	0.	0.	0.	0.	0.	6.48E-07	3.85E-12	2.93E-09	5.04E-09	5.04E-09	4.56E-03	0.	0.
7	10.10	0.	3.91E-03	0.	0.	0.	0.	0.	0.	0.	6.49E-07	3.96E-12	2.93E-09	5.05E-09	5.05E-09	3.91E-03	0.	0.
8	10.00	0.	2.82E-03	0.	0.	0.	0.	0.	0.	0.	6.49E-07	4.08E-12	2.94E-09	5.06E-09	5.06E-09	2.82E-03	0.	0.
9	9.90	0.	2.79E-03	0.	0.	0.	0.	0.	0.	0.	6.51E-07	4.21E-12	2.95E-09	5.07E-09	5.07E-09	2.79E-03	0.	0.
10	9.80	0.	2.27E-03	0.	0.	0.	0.	0.	0.	0.	6.52E-07	4.34E-12	2.95E-09	5.08E-09	5.08E-09	2.27E-03	0.	0.
11	9.70	0.	1.63E-03	0.	0.	0.	0.	0.	0.	0.	6.53E-07	4.48E-12	2.96E-09	5.09E-09	5.09E-09	1.63E-03	0.	0.
12	9.60	0.	1.74E-03	0.	0.	0.	0.	0.	0.	0.	6.54E-07	4.62E-12	2.97E-09	5.10E-09	5.10E-09	1.74E-03	0.	0.
13	9.50	0.	1.21E-03	0.	0.	0.	0.	0.	0.	0.	6.55E-07	4.77E-12	2.97E-09	5.11E-09	5.11E-09	1.21E-03	0.	0.
14	9.40	0.	1.01E-03	0.	0.	0.	0.	0.	0.	0.	6.58E-07	4.92E-12	2.98E-09	5.12E-09	5.12E-09	1.01E-03	0.	0.
15	9.30	0.	7.76E-04	0.	0.	0.	0.	0.	0.	0.	6.60E-07	5.08E-12	2.98E-09	5.13E-09	5.13E-09	7.76E-04	0.	0.
16	9.20	0.	8.41E-05	0.	0.	0.	0.	0.	0.	0.	6.63E-07	5.25E-12	2.98E-09	5.14E-09	5.14E-09	8.41E-05	0.	0.
17	9.10	0.	1.03E-04	0.	0.	0.	0.	0.	0.	0.	6.65E-07	5.42E-12	2.98E-09	5.15E-09	5.15E-09	1.03E-04	0.	0.
18	9.00	0.	1.25E-04	0.	0.	0.	0.	0.	0.	0.	6.67E-07	5.61E-12	2.98E-09	5.16E-09	5.16E-09	1.25E-04	0.	0.
19	8.90	0.	1.46E-04	0.	0.	0.	0.	0.	0.	0.	6.70E-07	5.80E-12	2.98E-09	5.17E-09	5.17E-09	1.46E-04	0.	0.
20	8.80	0.	1.52E-04	0.	0.	0.	0.	0.	0.	0.	6.72E-07	6.00E-12	2.98E-09	5.18E-09	5.18E-09	1.52E-04	0.	0.
21	8.70	0.	1.45E-04	0.	0.	0.	0.	0.	0.	0.	6.75E-07	6.21E-12	2.98E-09	5.19E-09	5.19E-09	1.45E-04	0.	0.
22	8.60	0.	1.39E-04	0.	0.	0.	0.	0.	0.	0.	6.77E-07	6.43E-12	2.98E-09	5.20E-09	5.20E-09	1.39E-04	0.	0.
23	8.50	0.	1.33E-04	0.	0.	0.	0.	0.	0.	0.	6.79E-07	6.66E-12	2.98E-09	5.21E-09	5.21E-09	1.33E-04	0.	0.
24	8.40	0.	1.29E-04	0.	0.	0.	0.	0.	0.	0.	6.83E-07	6.90E-12	2.98E-09	5.22E-09	5.22E-09	1.29E-04	0.	0.
25	8.30	0.	1.23E-04	0.	0.	0.	0.	0.	0.	0.	6.86E-07	7.15E-12	2.98E-09	5.23E-09	5.23E-09	1.23E-04	0.	0.
26	8.20	0.	1.18E-04	0.	0.	0.	0.	0.	0.	0.	6.90E-07	7.42E-12	2.98E-09	5.24E-09	5.24E-09	1.18E-04	0.	0.
27	8.10	0.	1.13E-04	0.	0.	0.	0.	0.	0.	0.	6.94E-07	7.70E-12	2.98E-09	5.25E-09	5.25E-09	1.13E-04	0.	0.
28	8.00	0.	1.08E-04	0.	0.	0.	0.	0.	0.	0.	6.97E-07	7.99E-12	2.98E-09	5.26E-09	5.26E-09	1.08E-04	0.	0.
29	7.90	0.	1.03E-04	0.	0.	0.	0.	0.	0.	0.	7.01E-07	8.30E-12	2.98E-09	5.27E-09	5.27E-09	1.03E-04	0.	0.
30	7.80	0.	9.74E-05	0.	0.	0.	0.	0.	0.	0.	7.04E-07	8.62E-12	2.98E-09	5.28E-09	5.28E-09	9.74E-05	0.	0.
31	7.70	0.	9.19E-05	0.	0.	0.	0.	0.	0.	0.	7.08E-07	8.97E-12	2.98E-09	5.29E-09	5.29E-09	9.19E-05	0.	0.
32	7.60	0.	8.62E-05	0.	0.	0.	0.	0.	0.	0.	7.11E-07	9.33E-12	2.98E-09	5.30E-09	5.30E-09	8.62E-05	0.	0.
33	7.50	0.	8.06E-05	0.	0.	0.	0.	0.	0.	0.	7.15E-07	9.71E-12	2.98E-09	5.31E-09	5.31E-09	8.06E-05	0.	0.
34	7.40	0.	7.50E-05	0.	0.	0.	0.	0.	0.	0.	7.19E-07	1.01E-11	2.98E-09	5.32E-09	5.32E-09	7.50E-05	0.	0.
35	7.30	0.	6.94E-05	0.	0.	0.	0.	0.	0.	0.	7.23E-07	1.05E-11	2.98E-09	5.33E-09	5.33E-09	6.94E-05	0.	0.
36	7.20	0.	6.42E-05	0.	0.	0.	0.	0.	0.	0.	7.27E-07	1.10E-11	2.98E-09	5.34E-09	5.34E-09	6.42E-05	0.	0.
37	7.10	0.	5.91E-05	0.	0.	0.	0.	0.	0.	0.	7.33E-07	1.14E-11	2.98E-09	5.35E-09	5.35E-09	5.91E-05	0.	0.
38	7.00	0.	5.40E-05	0.	0.	0.	0.	0.	0.	0.	7.39E-07	1.19E-11	2.98E-09	5.36E-09	5.36E-09	5.40E-05	0.	0.
39	6.90	0.	4.90E-05	0.	0.	0.	0.	0.	0.	0.	7.45E-07	1.25E-11	2.98E-09	5.37E-09	5.37E-09	4.90E-05	0.	0.
40	6.80	0.	4.40E-05	0.	0.	0.	0.	0.	0.	0.	7.51E-07	1.30E-11	2.98E-09	5.38E-09	5.38E-09	4.40E-05	0.	0.
41	6.70	0.	3.90E-05	0.	0.	0.	0.	0.	0.	0.	7.57E-07	1.36E-11	2.98E-09	5.39E-09	5.39E-09	3.90E-05	0.	0.
42	6.60	0.	3.40E-05	0.	0.	0.	0.	0.	0.	0.	7.63E-07	1.43E-11	2.98E-09	5.40E-09	5.40E-09	3.40E-05	0.	0.
43	6.50	0.	2.90E-05	0.	0.	0.	0.	0.	0.	0.	7.69E-07	1.49E-11	2.98E-09	5.41E-09	5.41E-09	2.90E-05	0.	0.
44	6.40	0.	2.40E-05	0.	0.	0.	0.	0.	0.	0.	7.75E-07	1.56E-11	2.98E-09	5.42E-09	5.42E-09	2.40E-05	0.	0.
45	6.30	0.	1.90E-05	0.	0.	0.	0.	0.	0.	0.	7.81E-07	1.64E-11	2.98E-09	5.43E-09	5.43E-09	1.90E-05	0.	0.
46	6.20	0.	1.40E-05	0.	0.	0.	0.	0.	0.	0.	7.87E-07	1.72E-11	2.98E-09	5.44E-09	5.44E-09	1.40E-05	0.	0.
47	6.10	0.	1.20E-05	0.	0.	0.	0.	0.	0.	0.	7.92E-07	1.81E-11	2.98E-09	5.45E-09	5.45E-09	1.20E-05	0.	0.
48	6.00	0.	1.00E-05	0.	0.	0.	0.	0.	0.	0.	7.98E-07	1.90E-11	2.98E-09	5.46E-09	5.46E-09	1.00E-05	0.	0.
49	5.90	0.	8.00E-06	0.	0.	0.	0.	0.	0.	0.	7.98E-07	2.00E-11	2.98E-09	5.47E-09	5.47E-09	8.00E-06	0.	0.
50	5.80	0.	6.00E-06	0.	0.	0.	0.	0.	0.	0.	7.87E-07	2.10E-11	2.98E-09	5.48E-09	5.48E-09	6.00E-06	0.	0.
51	5.70	0.	4.00E-06	0.	0.	0.	0.	0.	0.	0.	7.39E-07	2.22E-11	2.98E-09	5.49E-09	5.49E-09	4.00E-06	0.	0.



## ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (G/CC)				1.293E-05 (10.0E-03 NORMAL)				TOTAL AIR						
PHOTON O2 S-R		N2		N2+		BETA		GAMMA		NO		O-		FREE-FREE		O		
ENERGY BANDS		1ST POS.		2ND POS.		1ST NEG.				VIB-ROT		PHOTO-DET		(IONS)		P.E.		
52	5.60 4.52E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
53	5.50 0.	0.	0.	0.	0.	2.03E-05	1.69E-04	0.	0.	0.	0.	6.87E-07	2.34E-11	6.62E-10	7.79E-09	1.90E-04	0.	
54	5.40 0.	0.	0.	0.	0.	2.60E-05	1.66E-04	0.	0.	0.	0.	6.91E-07	2.47E-11	6.63E-10	7.93E-09	2.13E-04	0.	
55	5.30 0.	0.	0.	0.	0.	2.01E-05	8.47E-05	0.	0.	0.	0.	6.94E-07	2.61E-11	6.66E-10	8.08E-09	1.05E-04	0.	
56	5.20 0.	0.	0.	0.	0.	2.07E-05	1.64E-04	0.	0.	0.	0.	6.99E-07	2.76E-11	6.68E-10	8.25E-09	1.86E-04	0.	
57	5.10 0.	0.	0.	0.	0.	2.05E-05	7.00E-05	0.	0.	0.	0.	7.03E-07	2.92E-11	6.73E-10	8.47E-09	9.12E-05	0.	
58	5.00 4.41E-07	0.	0.	0.	0.	1.88E-05	1.00E-04	0.	0.	0.	0.	7.09E-07	3.10E-11	6.88E-10	8.69E-09	1.20E-04	0.	
59	4.90 9.07E-07	0.	0.	0.	0.	1.53E-05	8.39E-05	0.	0.	0.	0.	7.15E-07	3.29E-11	7.05E-10	8.91E-09	1.00E-04	0.	
60	4.80 1.43E-06	0.	0.	0.	0.	1.57E-05	6.91E-05	0.	0.	0.	0.	7.21E-07	3.49E-11	7.22E-10	9.12E-09	8.64E-05	0.	
61	4.70 1.63E-06	0.	0.	0.	0.	1.61E-05	6.49E-05	0.	0.	0.	0.	7.37E-07	3.72E-11	7.37E-10	9.34E-09	8.32E-05	0.	
62	4.60 1.92E-06	0.	0.	0.	0.	1.44E-05	4.51E-05	0.	0.	0.	0.	7.33E-07	3.96E-11	7.52E-10	9.57E-09	6.18E-05	0.	
63	4.50 1.77E-06	0.	0.	0.	0.	1.37E-05	4.55E-05	0.	0.	0.	0.	7.39E-07	4.22E-11	7.69E-10	9.80E-09	6.19E-05	0.	
64	4.40 1.64E-06	0.	0.	0.	0.	1.09E-05	2.72E-05	0.	0.	0.	0.	7.51E-07	4.51E-11	7.88E-10	1.00E-08	4.07E-05	0.	
65	4.30 1.36E-06	0.	0.	0.	0.	1.02E-05	2.29E-05	0.	0.	0.	0.	7.57E-07	4.87E-11	8.07E-10	1.03E-08	3.58E-05	0.	
66	4.20 1.15E-06	0.	0.	0.	0.	8.54E-06	1.05E-05	0.	0.	0.	0.	7.63E-07	5.17E-11	8.26E-10	1.04E-08	2.18E-05	0.	
67	4.10 9.72E-07	0.	0.	0.	0.	8.44E-06	9.80E-06	0.	0.	0.	0.	7.63E-07	5.55E-11	8.45E-10	1.07E-10	2.38E-05	0.	
68	4.00 7.97E-07	0.	0.	0.	0.	7.14E-06	2.38E-06	0.	0.	0.	0.	7.66E-07	5.97E-11	8.57E-10	1.20E-10	1.19E-05	0.	
69	3.90 5.85E-07	0.	0.	0.	0.	6.25E-06	1.71E-06	0.	0.	0.	0.	7.69E-07	6.43E-11	8.73E-10	1.33E-10	1.44E-05	0.	
70	3.80 6.03E-07	0.	0.	0.	0.	4.34E-08	4.79E-06	8.75E-07	0.	0.	0.	7.66E-07	6.94E-11	8.97E-10	1.46E-10	9.39E-06	0.	
71	3.70 4.42E-07	0.	0.	0.	0.	2.39E-06	6.41E-07	4.95E-06	0.	0.	0.	7.63E-07	7.50E-11	9.21E-10	1.59E-10	9.35E-06	0.	
72	3.60 3.59E-07	0.	0.	0.	0.	4.57E-06	9.86E-08	3.28E-06	0.	0.	0.	7.51E-07	8.13E-11	9.29E-10	1.63E-10	9.15E-06	0.	
73	3.50 2.96E-07	0.	0.	0.	0.	1.42E-06	5.39E-07	3.63E-06	0.	0.	0.	7.03E-07	8.83E-11	8.57E-10	1.74E-10	6.65E-06	0.	
74	3.40 2.31E-07	0.	0.	0.	0.	3.01E-06	3.12E-07	2.22E-06	0.	0.	0.	6.44E-07	9.60E-11	8.38E-10	1.96E-10	4.29E-06	0.	
75	3.30 1.69E-07	0.	0.	0.	0.	9.63E-07	8.17E-08	2.44E-06	0.	0.	0.	3.71E-07	1.05E-10	8.38E-10	2.30E-10	4.09E-06	0.	
76	3.20 1.26E-07	0.	0.	0.	0.	1.28E-06	8.23E-07	1.56E-06	0.	0.	0.	3.72E-07	1.15E-10	8.79E-10	2.79E-10	4.21E-06	0.	
77	3.10 1.06E-07	0.	0.	0.	0.	5.21E-07	3.79E-06	1.54E-06	0.	0.	0.	3.72E-07	1.26E-10	9.21E-10	3.25E-10	4.35E-06	0.	
78	3.00 8.12E-08	0.	0.	0.	0.	4.41E-07	1.31E-07	1.22E-06	0.	0.	0.	3.73E-07	1.38E-10	9.63E-10	3.71E-10	4.61E-06	0.	
79	2.90 5.78E-08	0.	0.	0.	0.	1.97E-07	8.62E-07	9.89E-07	0.	0.	0.	3.74E-07	1.53E-10	1.01E-09	4.10E-10	5.05E-06	0.	
80	2.80 5.37E-08	0.	0.	0.	0.	1.18E-07	8.16E-07	5.82E-07	0.	0.	0.	3.75E-07	1.69E-10	1.05E-09	4.58E-10	4.54E-06	0.	
81	2.70 2.72E-08	0.	0.	0.	0.	4.95E-08	1.23E-07	2.93E-07	0.	0.	0.	3.75E-07	1.88E-10	1.08E-09	5.01E-10	4.91E-06	0.	
82	2.60 9.46E-09	0.	0.	0.	0.	2.29E-08	4.25E-07	1.14E-07	0.	0.	0.	3.75E-07	2.10E-10	1.10E-09	5.46E-10	5.36E-06	0.	
83	2.50 5.83E-10	0.	0.	0.	0.	1.14E-08	4.62E-08	3.73E-08	0.	0.	0.	3.75E-07	2.35E-10	1.17E-09	5.93E-10	5.81E-07	0.	
84	2.40 0.	0.	0.	0.	0.	1.81E-09	1.97E-08	7.35E-09	0.	0.	0.	3.75E-07	2.64E-10	1.23E-09	6.43E-10	6.46E-07	0.	
85	2.30 0.	0.	0.	0.	0.	1.57E-07	0.	3.38E-08	6.73E-10	0.	0.	3.75E-07	2.99E-10	1.29E-09	7.01E-10	7.06E-07	0.	
86	2.20 0.	0.	0.	0.	0.	1.17E-06	0.	0.	0.	0.	0.	3.75E-07	3.40E-10	1.36E-09	7.68E-10	7.73E-06	0.	
87	2.10 0.	0.	0.	0.	0.	1.92E-06	0.	0.	0.	0.	0.	3.71E-07	3.89E-10	1.47E-09	8.38E-10	8.45E-06	0.	
88	2.00 0.	0.	0.	0.	0.	4.17E-06	0.	0.	0.	0.	0.	3.69E-07	4.47E-10	1.58E-09	9.21E-10	9.28E-06	0.	
89	1.90 0.	0.	0.	0.	0.	5.12E-06	0.	0.	0.	0.	0.	3.57E-07	5.18E-10	1.70E-09	1.02E-09	1.02E-06	0.	
90	1.80 0.	0.	0.	0.	0.	1.69E-05	0.	0.	0.	0.	0.	3.44E-07	6.05E-10	1.84E-09	1.14E-09	1.14E-05	0.	
91	1.70 0.	0.	0.	0.	0.	1.51E-05	0.	0.	0.	0.	0.	3.29E-07	7.12E-10	2.03E-09	1.30E-09	1.30E-05	0.	
92	1.60 0.	0.	0.	0.	0.	1.73E-05	0.	0.	0.	0.	0.	3.10E-07	8.46E-10	2.25E-09	1.48E-09	1.48E-05	0.	
93	1.50 0.	0.	0.	0.	0.	1.21E-05	0.	0.	0.	0.	0.	2.62E-07	1.02E-09	2.52E-09	1.67E-09	1.67E-05	0.	
94	1.40 0.	0.	0.	0.	0.	1.48E-05	0.	0.	0.	0.	0.	1.19E-07	1.23E-09	2.77E-09	1.88E-09	1.88E-05	0.	
95	1.30 0.	0.	0.	0.	0.	1.84E-05	0.	0.	0.	0.	0.	0.	1.52E-09	3.47E-10	7.21E-10	2.42E-09	2.42E-05	0.
96	1.20 0.	0.	0.	0.	0.	1.16E-05	0.	0.	0.	0.	0.	0.	1.90E-09	4.64E-10	9.76E-10	3.14E-09	3.14E-05	0.
97	1.10 0.	0.	0.	0.	0.	1.42E-05	0.	0.	0.	0.	0.	0.	2.42E-09	6.09E-10	1.26E-09	1.61E-09	1.61E-05	0.
98	1.00 0.	0.	0.	0.	0.	9.14E-06	0.	0.	0.	0.	0.	0.	3.15E-09	8.97E-10	1.93E-09	2.42E-09	2.42E-05	0.
99	0.90 0.	0.	0.	0.	0.	9.19E-06	0.	0.	0.	0.	0.	0.	4.21E-09	1.20E-09	2.67E-09	3.34E-09	3.34E-05	0.
100	0.80 0.	0.	0.	0.	0.	6.75E-06	0.	0.	0.	0.	0.	0.	5.79E-09	1.39E-09	3.01E-09	3.84E-09	3.84E-05	0.
101	0.70 0.	0.	0.	0.	0.	3.01E-06	0.	0.	0.	0.	0.	0.	8.28E-09	1.31E-09	3.1E-09	3.94E-09	3.94E-05	0.
102	0.60 0.	0.	0.	0.	0.	6.70E-07	0.	0.	0.	0.	0.	0.	1.24E-08	1.27E-09	3.14E-09	4.04E-09	4.04E-05	0.
						1.39E-08	0.	0.	0.	0.	0.	0.	1.98E-08	1.42E-09	3.74E-09	4.84E-09	4.84E-05	0.



TEMPERATURE (DEGREES K) 6000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	0.	0.	5.89E-04	0.	0.	0.	1.18E-08	1.09E-13	6.78E-10	5.04E-10	5.89E-04
2 10.60 0.	0.	0.	4.64E-04	0.	0.	0.	1.18E-08	1.12E-13	6.82E-10	5.05E-10	4.64E-04
3 10.50 0.	0.	0.	4.29E-04	0.	0.	0.	1.18E-08	1.15E-13	6.85E-10	5.06E-10	4.29E-04
4 10.40 0.	0.	0.	3.59E-04	0.	0.	0.	1.18E-08	1.19E-13	6.87E-10	5.07E-10	3.59E-04
5 10.30 0.	0.	0.	2.70E-04	0.	0.	0.	1.18E-08	1.22E-13	6.89E-10	5.08E-10	2.70E-04
6 10.20 0.	0.	0.	2.54E-04	0.	0.	0.	1.19E-08	1.26E-13	6.90E-10	5.09E-10	2.54E-04
7 10.10 0.	0.	0.	2.18E-04	0.	0.	0.	1.19E-08	1.30E-13	6.92E-10	5.10E-10	2.18E-04
8 10.00 0.	0.	0.	1.57E-04	0.	0.	0.	1.19E-08	1.34E-13	6.94E-10	5.11E-10	1.57E-04
9 9.90 0.	0.	0.	1.55E-04	0.	0.	0.	1.19E-08	1.38E-13	6.95E-10	5.12E-10	1.55E-04
10 9.80 0.	0.	0.	1.27E-04	0.	0.	0.	1.19E-08	1.42E-13	6.97E-10	5.13E-10	1.27E-04
11 9.70 0.	0.	0.	9.08E-05	0.	0.	0.	1.19E-08	1.47E-13	6.98E-10	5.14E-10	9.08E-05
12 9.60 0.	0.	0.	9.69E-05	0.	0.	0.	1.20E-08	1.51E-13	7.00E-10	5.16E-10	9.69E-05
13 9.50 0.	6.60E-07	6.76E-05	0.	0.	0.	0.	1.20E-08	1.56E-13	7.01E-10	5.17E-10	6.83E-05
14 9.40 0.	7.26E-07	5.60E-05	0.	0.	0.	0.	1.20E-08	1.61E-13	7.06E-10	5.18E-10	5.68E-05
15 9.30 0.	7.92E-07	5.50E-05	0.	0.	0.	0.	1.21E-08	1.66E-13	7.08E-10	5.19E-10	5.58E-05
16 9.20 0.	8.58E-07	3.51E-05	0.	0.	0.	0.	1.21E-08	1.72E-13	7.14E-10	5.20E-10	3.60E-05
17 9.10 0.	1.05E-06	3.66E-05	0.	0.	0.	0.	1.22E-08	1.78E-13	7.20E-10	5.21E-10	3.77E-05
18 9.00 0.	1.27E-06	2.76E-05	0.	0.	0.	0.	1.22E-08	1.84E-13	7.26E-10	5.22E-10	2.89E-05
19 8.90 0.	1.49E-06	2.22E-05	0.	0.	0.	0.	1.23E-08	1.90E-13	7.32E-10	5.23E-10	2.37E-05
20 8.80 0.	1.55E-06	2.03E-05	0.	0.	0.	0.	1.23E-08	1.97E-13	7.38E-10	5.24E-10	2.19E-05
21 8.70 0.	1.48E-06	1.42E-05	0.	0.	0.	0.	1.23E-08	2.03E-13	7.44E-10	5.25E-10	1.57E-05
22 8.60 0.	1.41E-06	1.43E-05	0.	0.	0.	0.	1.24E-08	2.11E-13	7.50E-10	5.26E-10	1.57E-05
23 8.50 0.	1.36E-06	1.00E-05	0.	0.	0.	0.	1.24E-08	2.18E-13	7.56E-10	5.27E-10	1.14E-05
24 8.40 0.	1.32E-06	9.43E-06	0.	0.	0.	0.	1.25E-08	2.26E-13	7.62E-10	5.28E-10	1.08E-05
25 8.30 0.	1.26E-06	6.53E-06	0.	0.	0.	0.	1.26E-08	2.34E-13	7.68E-10	5.31E-10	7.80E-06
26 8.20 0.	1.20E-06	6.18E-06	0.	0.	0.	0.	1.26E-08	2.43E-13	7.74E-10	5.36E-10	7.39E-06
27 8.10 0.	1.15E-06	4.42E-06	0.	0.	0.	0.	1.27E-08	2.52E-13	7.80E-10	5.46E-10	5.59E-06
28 8.00 0.	1.11E-06	4.10E-06	0.	0.	0.	0.	1.28E-08	2.62E-13	7.86E-10	5.53E-10	5.22E-06
29 7.90 0.	1.05E-06	2.95E-06	0.	0.	0.	0.	1.28E-08	2.72E-13	7.92E-10	5.61E-10	4.02E-06
30 7.80 0.	9.94E-07	2.80E-06	0.	0.	0.	0.	1.29E-08	2.83E-13	7.98E-10	5.68E-10	3.81E-06
31 7.70 0.	9.37E-07	2.08E-06	0.	0.	0.	0.	1.29E-08	2.94E-13	8.04E-10	5.75E-10	3.03E-06
32 7.60 0.	8.80E-07	1.75E-06	0.	0.	3.42E-10	0.	1.30E-08	3.06E-13	8.10E-10	5.83E-10	2.64E-06
33 7.50 0.	8.22E-07	1.39E-06	0.	0.	3.40E-09	0.	1.31E-08	3.18E-13	8.16E-10	5.90E-10	2.23E-06
34 7.40 0.	7.65E-07	1.10E-06	0.	0.	9.61E-09	0.	1.32E-08	3.31E-13	8.22E-10	5.98E-10	1.89E-06
35 7.30 0.	7.08E-07	9.06E-07	0.	0.	6.14E-08	0.	1.32E-08	3.45E-13	8.28E-10	6.05E-10	1.69E-06
36 7.20 0.	6.55E-07	7.08E-07	0.	0.	2.11E-07	0.	1.33E-08	3.60E-13	8.34E-10	6.13E-10	1.59E-06
37 7.10 0.	6.03E-07	5.96E-07	0.	0.	3.22E-07	0.	1.34E-08	3.75E-13	8.40E-10	6.20E-10	1.53E-06
38 7.00 1.35E-09	0.	4.72E-07	0.	0.	1.52E-06	0.	1.35E-08	3.92E-13	8.46E-10	6.27E-10	2.01E-06
39 6.90 2.43E-09	0.	3.76E-07	0.	0.	1.10E-06	0.	1.36E-08	4.09E-13	8.52E-10	6.35E-10	1.49E-06
40 6.80 1.91E-09	0.	3.11E-07	0.	0.	2.49E-06	0.	1.37E-08	4.27E-13	8.58E-10	6.42E-10	2.82E-06
41 6.70 1.26E-09	0.	2.34E-07	0.	0.	4.52E-06	0.	1.38E-08	4.47E-13	8.64E-10	6.50E-10	4.77E-06
42 6.60 7.05E-10	0.	1.80E-07	0.	0.	1.84E-06	0.	1.40E-08	4.68E-13	8.70E-10	6.58E-10	2.04E-06
43 6.50 3.67E-10	0.	1.19E-07	0.	0.	3.84E-06	0.	1.41E-08	4.90E-13	8.76E-10	6.65E-10	3.97E-06
44 6.40 1.83E-10	0.	6.25E-08	0.	5.04E-08	6.49E-06	0.	1.42E-08	5.13E-13	8.82E-10	6.73E-10	6.62E-06
45 6.30 9.28E-11	0.	2.87E-08	0.	1.97E-07	2.29E-06	0.	1.43E-08	5.38E-13	8.88E-10	6.83E-10	2.53E-06
46 6.20 3.68E-11	0.	1.20E-08	0.	2.40E-07	3.67E-06	0.	1.44E-08	5.64E-13	8.94E-10	6.98E-10	3.94E-06
47 6.10 1.45E-11	0.	4.39E-09	0.	6.14E-07	8.12E-06	0.	1.45E-08	5.92E-13	9.00E-10	7.13E-10	8.75E-06
48 6.00 5.36E-12	0.	9.44E-10	0.	4.44E-07	1.97E-06	0.	1.46E-08	6.23E-13	9.06E-10	7.27E-10	2.43E-06
49 5.90 1.21E-12	0.	6.60E-11	0.	6.06E-07	2.42E-06	0.	1.46E-08	6.55E-13	9.12E-10	7.42E-10	3.05E-06
50 5.80 1.40E-13	0.	1.57E-12	0.	7.75E-07	2.28E-06	0.	1.44E-08	6.89E-13	9.18E-10	7.57E-10	3.07E-06
51 5.70 1.08E-14	0.	0.	0.	7.59E-07	1.90E-06	0.	1.35E-08	7.26E-13	9.24E-10	7.72E-10	2.68E-06

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 6000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)																		
PHOTON D2 S-R ENERGY BANDS		N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR					
52	5.60 4.61E-16	0.	0.	0.	4.83E-07	4.03E-06	0.	0.	1.26E-08	7.66E-13	1.56E-10	7.87E-10	4.52E-06	0.				
53	5.50 0.	0.	0.	0.	6.20E-07	4.44E-06	0.	0.	1.26E-08	8.09E-13	1.57E-10	8.02E-10	5.07E-06	0.				
54	5.40 0.	0.	0.	0.	4.78E-07	2.02E-06	0.	0.	1.27E-08	8.55E-13	1.57E-10	8.17E-10	2.51E-06	0.				
55	5.30 0.	0.	0.	0.	4.94E-07	3.92E-06	0.	0.	1.28E-08	9.04E-13	1.58E-10	8.34E-10	4.42E-06	0.				
56	5.20 0.	0.	0.	0.	4.88E-07	1.67E-06	0.	0.	1.29E-08	9.57E-13	1.59E-10	8.56E-10	2.17E-06	0.				
57	5.10 0.	0.	0.	0.	4.48E-07	2.39E-06	0.	8.92E-13	1.30E-08	1.01E-12	1.62E-10	8.78E-10	2.86E-06	0.				
58	5.00 4.5E-09	0.	0.	0.	3.65E-07	2.00E-06	0.	8.92E-13	1.31E-08	1.08E-12	1.66E-10	9.00E-10	2.38E-06	0.				
59	4.90 9.26E-09	0.	0.	0.	3.73E-07	1.65E-06	0.	8.92E-13	1.32E-08	1.14E-12	1.70E-10	9.22E-10	2.04E-06	0.				
60	4.80 1.46E-08	0.	0.	0.	3.84E-07	1.55E-06	0.	8.92E-13	1.33E-08	1.22E-12	1.74E-10	9.44E-10	1.96E-06	0.				
61	4.70 1.66E-08	0.	0.	0.	3.42E-07	1.07E-06	0.	8.92E-13	1.34E-08	1.30E-12	1.77E-10	9.67E-10	1.45E-06	0.				
62	4.60 1.96E-08	0.	0.	0.	3.27E-07	1.08E-06	0.	8.92E-13	1.35E-08	1.38E-12	1.81E-10	9.90E-10	1.45E-06	0.				
63	4.50 1.81E-08	0.	4.48E-09	0.	2.61E-07	6.47E-07	0.	8.92E-13	1.36E-08	1.48E-12	1.86E-10	1.01E-09	9.45E-07	0.				
64	4.40 1.68E-08	0.	2.16E-08	0.	2.43E-07	5.45E-07	0.	8.92E-13	1.37E-08	1.58E-12	1.90E-10	1.04E-09	8.41E-07	0.				
65	4.30 1.39E-08	0.	3.44E-08	0.	2.04E-07	2.51E-07	0.	8.92E-13	1.38E-08	1.70E-12	1.95E-10	1.06E-09	5.18E-07	0.				
66	4.20 1.17E-08	0.	2.02E-07	0.	2.01E-07	2.34E-07	0.	8.92E-13	1.40E-08	1.82E-12	1.99E-10	4.12E-11	6.63E-07	0.				
67	4.10 9.92E-09	0.	3.77E-08	0.	1.77E-08	0.	0.	8.92E-13	1.40E-08	1.96E-12	1.08E-10	4.25E-11	2.89E-07	0.				
68	4.00 8.14E-09	0.	2.72E-07	0.	1.49E-07	5.66E-08	0.	8.92E-13	1.41E-08	2.11E-12	8.79E-11	4.38E-11	4.84E-07	0.				
69	3.90 5.97E-09	0.	1.29E-07	1.33E-08	1.14E-07	4.08E-08	0.	8.92E-13	1.40E-08	2.27E-12	8.90E-11	4.51E-11	2.98E-07	0.				
70	3.80 6.16E-09	0.	1.33E-07	1.97E-07	1.18E-07	0.	0.	8.92E-13	1.40E-08	2.46E-12	5.22E-11	4.64E-11	4.68E-07	0.				
71	3.70 4.51E-09	0.	2.54E-07	3.03E-08	7.83E-08	0.	0.	8.92E-13	1.37E-08	2.66E-12	5.41E-11	5.41E-11	3.81E-07	0.				
72	3.60 3.66E-09	0.	7.91E-08	1.66E-07	8.66E-08	0.	0.	8.92E-13	1.29E-08	2.89E-12	6.07E-11	6.30E-11	3.48E-07	0.				
73	3.50 3.02E-09	0.	1.68E-07	9.59E-07	5.28E-08	0.	0.	8.92E-13	1.18E-08	3.15E-12	6.98E-11	7.22E-11	1.19E-06	0.				
74	3.40 2.35E-09	0.	5.36E-08	2.51E-08	5.82E-08	0.	0.	8.92E-13	6.79E-09	3.43E-12	7.96E-11	8.17E-11	1.46E-07	0.				
75	3.30 1.73E-09	0.	7.13E-08	2.53E-07	3.72E-08	0.	0.	8.92E-13	6.80E-09	3.76E-12	8.94E-11	9.13E-11	3.70E-07	0.				
76	3.20 1.24E-09	0.	2.90E-08	1.16E-06	3.67E-08	0.	0.	8.92E-13	6.81E-09	4.12E-12	9.93E-11	1.01E-10	1.24E-06	0.				
77	3.10 1.08E-09	0.	2.45E-08	4.01E-08	2.91E-08	0.	0.	8.92E-13	6.83E-09	4.54E-12	1.09E-10	1.11E-10	1.02E-07	0.				
78	3.00 8.28E-10	0.	1.10E-08	2.65E-07	2.36E-08	0.	0.	8.92E-13	6.85E-09	5.01E-12	1.19E-10	1.21E-10	3.07E-07	0.				
79	2.90 5.90E-10	0.	6.54E-09	2.51E-07	1.39E-08	0.	0.	8.92E-13	6.86E-09	5.54E-12	1.29E-10	1.30E-10	2.79E-07	0.				
80	2.80 5.48E-10	0.	2.75E-09	3.77E-08	6.98E-09	0.	0.	8.92E-13	6.87E-09	6.16E-12	1.39E-10	1.40E-10	5.52E-08	0.				
81	2.70 2.78E-10	0.	1.27E-09	1.31E-07	2.73E-09	0.	0.	8.92E-13	6.87E-09	6.88E-12	1.50E-10	2.27E-11	1.42E-07	0.				
82	2.60 9.65E-11	0.	6.33E-10	1.42E-08	8.89E-10	0.	0.	8.92E-13	6.87E-09	7.70E-12	4.01E-11	2.45E-11	2.28E-08	0.				
83	2.50 5.95E-12	0.	1.00E-10	6.05E-09	1.75E-10	0.	0.	8.92E-13	6.87E-09	8.67E-12	4.79E-11	2.80E-11	1.33E-08	0.				
84	2.40 0.	8.72E-09	0.	1.04E-08	1.61E-11	0.	0.	8.92E-13	6.87E-09	9.80E-12	6.03E-11	3.45E-11	2.61E-08	0.				
85	2.30 0.	6.52E-08	0.	0.	0.	0.	0.	8.92E-13	6.81E-09	1.11E-11	7.32E-11	4.12E-11	7.22E-08	0.				
86	2.20 0.	1.07E-07	0.	0.	0.	0.	0.	8.92E-13	6.79E-09	1.27E-11	8.64E-11	4.95E-11	1.14E-07	0.				
87	2.10 0.	2.32E-07	0.	0.	0.	0.	0.	8.92E-13	6.76E-09	1.47E-11	1.00E-10	5.77E-11	2.39E-07	0.				
88	2.00 0.	2.85E-07	0.	0.	0.	0.	0.	8.92E-13	6.54E-09	1.70E-11	1.15E-10	6.60E-11	2.92E-07	0.				
89	1.90 0.	9.42E-07	0.	0.	0.	0.	0.	8.92E-13	6.29E-09	1.98E-11	1.29E-10	7.43E-11	9.48E-07	0.				
90	1.80 0.	8.41E-07	0.	0.	0.	0.	0.	8.92E-13	6.02E-09	2.33E-11	1.49E-10	8.63E-11	8.47E-07	0.				
91	1.70 0.	9.61E-07	0.	0.	0.	0.	0.	8.92E-13	5.67E-09	2.77E-11	1.72E-10	8.98E-11	9.67E-07	0.				
92	1.60 0.	6.72E-07	0.	0.	0.	0.	0.	8.92E-13	4.80E-09	3.33E-11	1.69E-10	1.04E-10	6.77E-07	0.				
93	1.50 0.	8.23E-07	0.	0.	0.	0.	0.	8.92E-13	2.18E-09	4.05E-11	8.59E-11	5.63E-11	8.25E-07	0.				
94	1.40 0.	1.02E-06	0.	0.	0.	0.	0.	8.92E-13	0.	0.	1.13E-10	7.29E-11	1.02E-06	0.				
95	1.30 0.	6.48E-07	0.	0.	0.	0.	0.	8.92E-13	0.	0.	1.13E-10	7.29E-11	1.02E-06	0.				
96	1.20 0.	7.88E-07	0.	0.	0.	0.	0.	8.92E-13	0.	0.	1.13E-10	7.29E-11	1.02E-06	0.				
97	1.10 0.	5.09E-07	0.	0.	0.	0.	0.	8.92E-13	0.	0.	1.13E-10	7.29E-11	1.02E-06	0.				
98	1.00 0.	5.11E-07	0.	0.	0.	0.	0.	8.92E-13	0.	0.	1.13E-10	7.29E-11	1.02E-06	0.				
99	0.90 0.	3.76E-07	0.	0.	0.	0.	0.	8.92E-13	0.	0.	1.13E-10	7.29E-11	1.02E-06	0.				
100	0.80 0.	1.68E-07	0.	0.	0.	0.	0.	8.92E-13	0.	0.	1.13E-10	7.29E-11	1.02E-06	0.				
101	0.70 0.	4.84E-08	0.	0.	0.	0.	0.	8.92E-13	0.	0.	1.13E-10	7.29E-11	1.02E-06	0.				
102	0.60 0.	7.76E-10	0.	0.	0.	0.	0.	8.92E-13	0.	0.	1.13E-10	7.29E-11	1.02E-06	0.				



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-07 (10.0E-05 NORMAL)		FREE-FREE		N		O		TOTAL AIR	
ENERGY	RANDS	1ST POS.	2ND POS.	N2	N2+	BETA	NO	GAMMA	VIB-ROT	NO	NO	PHOTO-DET (IONS)	P.E.	P.E.	P.E.
52	5.60	4.64E-18	0.	0.	0.	7.48E-09	6.24E-08	0.	0.	2.90E-10	4.07E-14	2.41E-11	7.89E-11	7.03E-08	7.89E-11
53	5.50	0.	0.	0.	0.	9.60E-09	6.87E-08	0.	0.	2.92E-10	4.29E-14	2.42E-11	8.04E-11	7.88E-08	8.04E-11
54	5.40	0.	0.	0.	0.	7.41E-09	3.13E-08	0.	0.	2.93E-10	4.54E-14	2.43E-11	8.19E-11	3.91E-08	8.19E-11
55	5.30	0.	0.	0.	0.	7.65E-09	6.07E-08	0.	0.	2.95E-10	4.80E-14	2.44E-11	8.36E-11	6.87E-08	8.36E-11
56	5.20	0.	0.	0.	0.	7.56E-09	2.59E-08	0.	0.	2.97E-10	5.08E-14	2.45E-11	8.58E-11	3.38E-08	8.58E-11
57	5.10	0.	0.	0.	0.	6.95E-09	3.71E-08	0.	0.	3.00E-10	5.39E-14	2.51E-11	8.80E-11	4.45E-08	8.80E-11
58	5.00	4.52E-11	0.	0.	0.	5.66E-09	3.10E-08	0.	0.	3.02E-10	5.72E-14	2.57E-11	9.02E-11	3.71E-08	9.02E-11
59	4.90	9.31E-11	0.	0.	0.	5.78E-09	2.55E-08	0.	0.	3.05E-10	6.08E-14	2.64E-11	9.24E-11	3.18E-08	9.24E-11
60	4.80	1.47E-10	0.	0.	0.	5.95E-09	2.40E-08	0.	0.	3.07E-10	6.47E-14	2.69E-11	9.46E-11	3.05E-08	9.46E-11
61	4.70	1.67E-10	0.	0.	0.	5.30E-09	1.67E-08	0.	0.	3.10E-10	6.89E-14	2.74E-11	9.69E-11	2.26E-08	9.69E-11
62	4.60	1.97E-10	0.	0.	0.	5.07E-09	1.68E-08	0.	0.	3.12E-10	7.35E-14	2.81E-11	9.93E-11	2.25E-08	9.93E-11
63	4.50	1.82E-10	0.	0.	0.	4.04E-09	1.00E-08	0.	0.	3.15E-10	7.86E-14	2.88E-11	1.02E-10	1.48E-08	1.02E-10
64	4.40	1.68E-10	0.	0.	0.	3.77E-09	8.44E-09	0.	0.	3.17E-10	8.41E-14	2.95E-11	1.04E-10	1.33E-08	1.04E-10
65	4.30	1.39E-10	0.	0.	0.	3.15E-09	3.89E-09	0.	0.	3.20E-10	9.01E-14	3.02E-11	1.00E-10	8.36E-09	1.00E-10
66	4.20	1.18E-10	0.	0.	0.	3.12E-09	3.62E-09	0.	0.	3.22E-10	9.67E-14	3.09E-11	1.03E-10	1.20E-08	1.03E-10
67	4.10	9.96E-11	0.	0.	0.	2.64E-09	8.77E-10	0.	0.	3.24E-10	1.04E-13	3.16E-11	1.06E-10	4.86E-09	1.06E-10
68	4.00	8.16E-11	0.	0.	0.	2.31E-09	6.32E-10	0.	0.	3.25E-10	1.12E-13	3.23E-11	1.09E-10	9.86E-09	1.09E-10
69	3.90	6.00E-11	0.	0.	0.	2.31E-09	6.32E-10	0.	0.	3.25E-10	1.12E-13	3.23E-11	1.09E-10	9.86E-09	1.09E-10
70	3.80	6.19E-11	0.	0.	0.	1.77E-09	3.23E-10	0.	0.	3.25E-10	1.12E-13	3.23E-11	1.09E-10	9.86E-09	1.09E-10
71	3.70	4.53E-11	0.	0.	0.	3.18E-09	2.05E-08	1.83E-09	0.	3.18E-10	1.31E-13	3.07E-12	4.65E-12	2.59E-08	4.65E-12
72	3.60	3.64E-11	0.	0.	0.	6.09E-09	3.15E-09	1.21E-09	0.	3.18E-10	1.41E-13	3.36E-12	5.42E-12	1.08E-08	5.42E-12
73	3.50	3.03E-11	0.	0.	0.	1.89E-09	1.72E-08	1.34E-09	0.	3.18E-10	1.54E-13	3.36E-12	6.32E-12	2.08E-08	6.32E-12
74	3.40	2.36E-11	0.	0.	0.	4.01E-09	9.95E-08	8.19E-10	0.	3.18E-10	1.67E-13	3.08E-11	7.23E-12	1.05E-07	7.23E-12
75	3.30	1.74E-11	0.	0.	0.	1.28E-09	2.60E-09	9.02E-10	0.	3.18E-10	1.82E-13	3.13E-11	8.19E-12	4.99E-09	8.19E-12
76	3.20	1.30E-11	0.	0.	0.	1.71E-09	2.63E-08	5.77E-10	0.	3.18E-10	1.99E-13	3.38E-11	9.16E-12	2.87E-08	9.16E-12
77	3.10	1.08E-11	0.	0.	0.	6.94E-10	1.21E-07	5.68E-10	0.	3.18E-10	2.19E-13	3.54E-11	1.01E-11	1.22E-07	1.01E-11
78	3.00	8.33E-12	0.	0.	0.	5.87E-10	4.16E-09	4.51E-10	0.	3.18E-10	2.41E-13	3.69E-11	1.11E-11	5.40E-09	1.11E-11
79	2.90	5.93E-12	0.	0.	0.	2.63E-10	2.75E-08	3.65E-10	0.	3.18E-10	2.66E-13	3.84E-11	1.21E-11	2.83E-08	1.21E-11
80	2.80	5.51E-12	0.	0.	0.	1.56E-10	2.60E-08	2.15E-10	0.	3.18E-10	2.94E-13	4.00E-11	1.31E-11	2.66E-08	1.31E-11
81	2.70	2.79E-12	0.	0.	0.	6.58E-11	3.92E-09	1.08E-10	0.	3.18E-10	3.27E-13	4.26E-11	1.40E-11	4.29E-09	1.40E-11
82	2.60	9.7E-13	0.	0.	0.	3.04E-11	1.36E-08	4.23E-11	0.	3.18E-10	3.65E-13	4.52E-11	1.48E-11	1.30E-08	1.48E-11
83	2.50	5.98E-14	0.	0.	0.	1.52E-11	1.47E-09	1.38E-11	0.	3.18E-10	4.09E-13	4.80E-12	1.56E-11	1.67E-09	1.56E-11
84	2.40	0.	0.	0.	0.	2.40E-12	6.28E-10	2.71E-12	0.	3.18E-10	4.60E-13	5.11E-12	1.64E-11	2.03E-10	1.64E-11
85	2.30	0.	0.	0.	0.	2.09E-10	0.	2.49E-13	0.	3.18E-10	5.21E-13	5.33E-12	1.73E-11	1.46E-09	1.73E-11
86	2.20	0.	0.	0.	0.	1.56E-09	0.	0.	0.	3.18E-10	5.92E-13	5.55E-12	1.83E-11	1.33E-09	1.83E-11
87	2.10	0.	0.	0.	0.	2.56E-09	0.	0.	0.	3.18E-10	6.77E-13	5.79E-12	1.96E-11	1.24E-09	1.96E-11
88	2.00	0.	0.	0.	0.	5.56E-09	0.	0.	0.	3.18E-10	7.78E-13	6.11E-12	2.11E-11	1.14E-09	2.11E-11
89	1.90	0.	0.	0.	0.	6.82E-09	0.	0.	0.	3.18E-10	9.02E-13	6.61E-12	2.28E-11	1.03E-09	2.28E-11
90	1.80	0.	0.	0.	0.	2.25E-08	0.	0.	0.	3.18E-10	1.05E-12	7.11E-12	2.45E-12	9.00E-12	2.45E-12
91	1.70	0.	0.	0.	0.	2.01E-08	0.	0.	0.	3.18E-10	1.24E-12	7.61E-12	2.64E-12	8.00E-12	2.64E-12
92	1.60	0.	0.	0.	0.	2.30E-08	0.	0.	0.	3.18E-10	1.47E-12	8.11E-12	2.83E-12	7.00E-12	2.83E-12
93	1.50	0.	0.	0.	0.	1.61E-08	0.	0.	0.	3.18E-10	1.77E-12	8.61E-12	3.02E-12	6.00E-12	3.02E-12
94	1.40	0.	0.	0.	0.	1.97E-08	0.	0.	0.	3.18E-10	2.15E-12	9.11E-12	3.21E-12	5.00E-12	3.21E-12
95	1.30	0.	0.	0.	0.	2.45E-08	0.	0.	0.	3.18E-10	2.65E-12	9.61E-12	3.40E-12	4.00E-12	3.40E-12
96	1.20	0.	0.	0.	0.	1.55E-08	0.	0.	0.	3.18E-10	3.31E-12	1.01E-11	3.59E-12	3.00E-12	3.59E-12
97	1.10	0.	0.	0.	0.	1.89E-08	0.	0.	0.	3.18E-10	4.22E-12	1.06E-11	3.78E-12	2.00E-12	3.78E-12
98	1.00	0.	0.	0.	0.	1.22E-08	0.	0.	0.	3.18E-10	5.49E-12	1.11E-11	3.97E-12	1.00E-12	3.97E-12
99	0.90	0.	0.	0.	0.	1.22E-08	0.	0.	0.	3.18E-10	7.32E-12	1.16E-11	4.16E-12	0.00E-12	4.16E-12
100	0.80	0.	0.	0.	0.	8.99E-09	0.	0.	0.	3.18E-10	1.01E-11	1.21E-11	4.35E-12	0.00E-12	4.35E-12
101	0.70	0.	0.	0.	0.	4.01E-09	0.	0.	0.	3.18E-10	1.44E-11	1.26E-11	4.54E-12	0.00E-12	4.54E-12
102	0.60	0.	0.	0.	0.	1.16E-09	0.	0.	0.	3.18E-10	2.16E-11	1.31E-11	4.73E-12	0.00E-12	4.73E-12
103	0.50	0.	0.	0.	0.	1.86E-11	0.	0.	0.	3.18E-10	3.45E-11	1.36E-11	4.92E-12	0.00E-12	4.92E-12

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON U2 S-R		O2 S-R		N2 B-H		TEMPERATURE (DEGREES K)		6000.		DENSITY (GM/CC) 1.293E-08 (1.0E-05 NORMAL)		NO		O-		FREE-FREE		N		P.E.		TOTAL AIR	
ENERGY BANDS		CONT.		NO. 1								2		PHOTO-DET (IONS)		P.E.		P.E.					
E.V.																							
1	10.70	0.	0.	1.69E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	1.33E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	1.23E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	1.03E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	7.76E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	7.30E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	6.25E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	4.51E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	4.46E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	3.64E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	2.61E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	2.79E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	1.94E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	7.29E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	7.95E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	8.62E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	1.06E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	1.28E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	1.49E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	1.55E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	1.49E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	1.42E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	1.37E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	1.32E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	1.26E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	1.21E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	1.16E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	1.11E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	1.05E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	9.98E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	9.41E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	8.83E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	8.25E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	7.68E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	7.11E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	6.58E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	6.05E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	5.48E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	4.91E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	4.34E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	3.77E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	3.20E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	2.63E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	2.06E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	1.49E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	9.42E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	8.85E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	8.28E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	7.71E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	7.14E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	6.57E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.		O2 S-R CONT.		TEMPERATURE (DEGREES K)		600C.		DENSITY (GM/CC)		1.293E-09 (1.0E-06 NORMAL)		O- PHOTO-DET (IONS)		FREE-FREE P.E.		N P.E.		U P.E.		TOTAL AIR	
1	10.70	0.	0.	1.71E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	1.35E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	1.25E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	1.04E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	7.85E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	7.39E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	6.33E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	4.56E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	4.52E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	3.68E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	2.64E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	2.82E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	6.55E-13	1.97E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	7.20E-13	1.63E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	7.86E-13	1.60E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	8.51E-13	1.02E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	1.04E-12	1.06E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	1.26E-12	8.04E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	1.48E-12	6.45E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	1.53E-12	5.91E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	1.47E-12	4.13E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	1.40E-12	4.15E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	1.35E-12	2.91E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	1.30E-12	2.74E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	1.25E-12	1.90E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	1.19E-12	1.80E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	1.15E-12	1.29E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	1.10E-12	1.19E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	1.04E-12	8.59E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	9.86E-13	8.15E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	9.30E-13	6.05E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	8.73E-13	5.09E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	8.16E-13	4.04E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	7.59E-13	3.20E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	7.02E-13	2.64E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	6.50E-13	2.06E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	5.98E-13	1.73E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	5.46E-13	1.37E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	4.94E-13	1.10E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	4.42E-13	9.05E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	3.90E-13	6.81E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	3.38E-13	5.24E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	2.86E-13	3.45E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	2.34E-13	1.82E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	1.82E-13	8.35E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	1.30E-13	3.50E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	8.0E-14	1.28E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	3.0E-14	2.75E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	1.0E-14	1.92E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	3.0E-15	4.56E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	1.0E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R		TEMPERATURE (DEGREES K)		6000.		DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)		FREE-FREE		N		O		TOTAL AIR	
ENERGY BANDS	N2	1ST POS.	2ND POS.	N2	BETA	GAMMA	VIB-ROT	NO	NO	PHOTO-DET (IONS)	P.E.	P.E.	P.E.		
52 5.60 4.57E-22 0.	0.	0.	0.	0.	8.20E-13	6.84E-12	0.	0.	2.66E-13	3.45E-16	2.66E-13	7.83E-13	8.98E-12		
53 5.50 0. 0.	0.	0.	0.	0.	1.05E-12	7.53E-12	0.	0.	2.67E-13	3.64E-16	2.67E-13	7.98E-13	9.92E-12		
54 5.40 0. 0.	0.	0.	0.	0.	8.12E-13	3.43E-12	0.	0.	2.68E-13	3.85E-16	2.68E-13	8.13E-13	5.59E-12		
55 5.30 0. 0.	0.	0.	0.	0.	8.38E-13	6.65E-12	0.	0.	2.70E-13	4.07E-16	2.70E-13	8.30E-13	8.86E-12		
56 5.20 0. 0.	0.	0.	0.	0.	8.28E-13	2.84E-12	0.	0.	2.72E-13	4.31E-16	2.72E-13	8.52E-13	5.06E-12		
57 5.10 0. 0.	0.	0.	0.	0.	7.62E-13	4.07E-12	0.	0.	2.74E-13	4.57E-16	2.74E-13	8.74E-13	6.25E-12		
58 5.00 4.40E-15 0.	0.	0.	0.	0.	6.20E-13	3.40E-12	0.	1.51E-21	2.77E-13	4.85E-16	2.84E-13	8.96E-13	5.48E-12		
59 4.90 9.1E-15 0.	0.	0.	0.	0.	6.34E-13	2.80E-12	0.	1.51E-21	2.79E-13	5.16E-16	2.91E-13	9.18E-13	4.93E-12		
60 4.80 1.45E-14 0.	0.	0.	0.	0.	6.52E-13	2.63E-12	0.	1.51E-21	2.81E-13	5.49E-16	2.97E-13	9.40E-13	4.81E-12		
61 4.70 1.65E-14 0.	0.	0.	0.	0.	5.81E-13	1.82E-12	0.	1.51E-21	2.83E-13	5.85E-16	3.02E-13	9.63E-13	3.97E-12		
62 4.60 1.94E-14 0.	0.	0.	0.	0.	5.56E-13	1.84E-12	0.	1.51E-21	2.86E-13	6.24E-16	3.09E-13	9.86E-13	4.00E-12		
63 4.50 1.79E-14 0.	1.30E-14	0.	0.	0.	4.43E-13	1.10E-12	0.	1.51E-21	2.88E-13	6.66E-16	3.17E-13	1.01E-12	3.19E-12		
64 4.40 1.66E-14 0.	6.29E-14	0.	0.	0.	4.13E-13	9.25E-13	0.	1.51E-21	2.90E-13	7.13E-16	3.25E-13	1.03E-12	3.07E-12		
65 4.30 1.37E-14 0.	1.00E-13	0.	0.	0.	3.46E-13	4.27E-13	0.	1.51E-21	2.93E-13	7.64E-16	3.32E-13	1.05E-12	1.55E-12		
66 4.20 1.16E-14 0.	5.87E-13	0.	0.	0.	3.42E-13	3.97E-13	0.	1.51E-21	2.95E-13	8.20E-16	1.81E-13	1.07E-12	1.86E-12		
67 4.10 9.84E-15 0.	1.10E-13	0.	0.	0.	2.89E-13	9.61E-14	0.	1.51E-21	2.96E-13	8.82E-16	1.84E-13	1.09E-12	1.03E-12		
68 4.00 8.07E-15 0.	7.90E-13	0.	0.	0.	2.53E-13	6.93E-14	0.	1.51E-21	2.97E-13	9.50E-16	1.50E-13	1.11E-12	1.61E-12		
69 3.90 5.92E-15 0.	3.77E-13	1.83E-12	0.	0.	1.94E-13	3.54E-14	0.	1.51E-21	2.98E-13	1.02E-15	1.52E-13	1.13E-12	2.93E-12		
70 3.80 6.10E-15 0.	3.87E-13	2.70E-12	0.	0.	2.01E-13	0.	0.	1.51E-21	2.99E-13	1.11E-15	8.90E-14	1.15E-12	2.80E-11		
71 3.70 4.7E-15 0.	7.40E-13	4.15E-12	0.	0.	1.33E-13	0.	0.	1.51E-21	2.99E-13	1.20E-15	9.22E-14	1.17E-12	5.47E-12		
72 3.60 3.63E-15 0.	2.30E-13	2.27E-11	0.	0.	1.47E-13	0.	0.	1.51E-21	2.72E-13	1.30E-15	1.03E-13	1.20E-12	2.35E-11		
73 3.50 2.99E-15 0.	4.87E-13	1.31E-10	0.	0.	8.98E-14	0.	0.	1.51E-21	2.49E-13	1.42E-15	1.19E-13	1.20E-12	1.32E-10		
74 3.40 2.33E-15 0.	1.56E-13	3.44E-12	0.	0.	9.89E-14	0.	0.	1.51E-21	1.44E-13	1.55E-15	1.36E-13	1.20E-12	4.06E-12		
75 3.30 1.71E-15 0.	2.07E-13	3.47E-11	0.	0.	6.32E-14	0.	0.	1.51E-21	1.44E-13	1.69E-15	1.53E-13	1.20E-12	3.53E-11		
76 3.20 1.26E-15 0.	8.44E-14	1.60E-10	0.	0.	6.23E-14	0.	0.	1.51E-21	1.44E-13	1.86E-15	1.69E-13	1.20E-12	1.60E-10		
77 3.10 1.07E-15 0.	7.14E-14	5.50E-12	0.	0.	4.94E-14	0.	0.	1.51E-21	1.44E-13	2.04E-15	1.86E-13	1.20E-12	6.06E-12		
78 3.00 8.21E-16 0.	3.19E-14	3.63E-11	0.	0.	4.00E-14	0.	0.	1.51E-21	1.45E-13	2.26E-15	2.03E-13	1.20E-12	3.68E-11		
79 2.90 5.85E-16 0.	1.90E-14	3.44E-11	0.	0.	2.35E-14	0.	0.	1.51E-21	1.45E-13	2.50E-15	2.20E-13	1.20E-12	3.49E-11		
80 2.80 5.43E-16 0.	4.01E-15	5.17E-12	0.	0.	1.19E-14	0.	0.	1.51E-21	1.45E-13	2.78E-15	2.38E-13	1.20E-12	5.72E-12		
81 2.70 2.75E-16 0.	3.70E-15	1.79E-11	0.	0.	4.63E-15	0.	0.	1.51E-21	1.45E-13	3.10E-15	2.56E-13	1.20E-12	1.83E-11		
82 2.60 9.57E-17 0.	1.84E-15	1.95E-12	0.	0.	1.51E-15	0.	0.	1.51E-21	1.45E-13	3.47E-15	2.74E-13	1.20E-12	2.19E-12		
83 2.50 5.90E-18 0.	2.92E-16	8.30E-13	0.	0.	2.97E-16	0.	0.	1.51E-21	1.45E-13	3.91E-15	3.01E-13	1.20E-12	1.09E-12		
84 2.40 0. 2.54E-14 0.	0.	0.	0.	0.	1.42E-12	2.73E-17	0.	1.51E-21	1.45E-13	4.42E-15	3.43E-13	1.20E-12	1.73E-12		
85 2.30 0. 1.90E-13 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	1.44E-13	5.02E-15	1.25E-13	1.20E-12	5.05E-13		
86 2.20 0. 3.11E-13 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	1.43E-13	5.74E-15	1.47E-13	1.20E-12	6.57E-13		
87 2.10 0. 6.76E-13 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	1.43E-13	6.60E-15	1.71E-13	1.20E-12	1.05E-12		
88 2.00 0. 8.29E-13 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	1.38E-13	7.65E-15	1.95E-13	1.20E-12	1.24E-12		
89 1.90 0. 2.74E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	1.33E-13	8.93E-15	2.20E-13	1.20E-12	2.92E-12		
90 1.80 0. 2.45E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	1.27E-13	1.05E-14	2.53E-13	1.20E-12	2.92E-12		
91 1.70 0. 2.80E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	1.20E-13	1.25E-14	2.93E-13	1.20E-12	3.31E-12		
92 1.60 0. 1.96E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	1.01E-13	1.50E-14	2.88E-13	1.20E-12	2.46E-12		
93 1.50 0. 2.39E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	1.01E-13	1.82E-14	1.46E-13	1.20E-12	2.66E-12		
94 1.40 0. 2.97E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	4.61E-14	2.25E-14	1.90E-13	1.20E-12	3.26E-12		
95 1.30 0. 1.88E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	0.	2.81E-14	2.67E-13	1.20E-12	2.28E-12		
96 1.20 0. 2.29E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	0.	3.58E-14	3.21E-13	1.04E-13	2.75E-12		
97 1.10 0. 1.48E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	0.	4.65E-14	4.01E-13	1.31E-13	2.06E-12		
98 1.00 0. 1.49E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	0.	6.21E-14	4.82E-13	1.58E-13	2.19E-12		
99 0.90 0. 1.09E-12 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	0.	8.56E-14	5.58E-13	1.84E-13	1.92E-12		
100 0.80 0. 4.88E-13 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	0.	1.22E-13	4.47E-13	1.35E-13	1.20E-12		
101 0.70 0. 1.41E-13 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	0.	1.83E-13	5.10E-13	1.55E-13	9.93E-13		
102 0.60 0. 2.26E-15 0.	0.	0.	0.	0.	0.	0.	0.	1.51E-21	0.	2.93E-13	5.73E-13	1.75E-13	1.06E-12		



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		FREE-FREE (IONS)		TOTAL AIR	
E.V.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9
1 10.70 0.	2.09E 01	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.	1.70E 01	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.	1.60E 01	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.	1.37E 01	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.	1.07E 01	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.	1.02E 01	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.	9.95E 00	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.	6.74E 00	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	6.72E 00	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	5.65E 00	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	4.23E 00	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	4.52E 00	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	7.32E 00	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	8.22E 00	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	9.12E 00	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	1.00E 01	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	1.22E 01	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	1.46E 01	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	1.70E 01	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	1.76E 01	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	1.69E 01	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	1.63E 01	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	1.57E 01	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	1.53E 01	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	1.47E 01	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	1.42E 01	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	1.37E 01	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	1.32E 01	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	1.26E 01	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	1.20E 01	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	1.13E 01	0.	0.	0.	0.	0.	0.	0.	0.
32 7.50 0.	1.06E 01	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	9.90E 00	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	9.32E 00	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	8.80E 00	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	8.16E 00	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	7.52E 00	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.	6.80E 00	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.	6.20E 00	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.	5.60E 00	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.	5.00E 00	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.	4.40E 00	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.	3.80E 00	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.	3.20E 00	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.	2.60E 00	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.	2.00E 00	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.	1.40E 00	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.	0.80E 00	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.	0.20E 00	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.	0.00E 00	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.	0.00E 00	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				7000.				DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)				TOTAL AIR									
PHOTON O2 S-R		N2		N2+		BETA		GAMMA		VIB-ROT		NO		O-		FREE-FREE		N		U	
ENERGY BANDS		1ST POS.		2ND POS.		1ST NEG.		NO		NO		NO		2		PHOTO-DET (IONS)		P.E.		P.E.	
52	5.60 6.08E-09	0.	0.	0.	0.	0.	0.	3.32E-01 2.56E 00	0.	0.	0.	0.	1.23E-01 5.79E-06	1.85E-06	7.60E-05	3.02E 00					
53	5.50 0.	0.	0.	0.	0.	0.	0.	4.17E-01 2.65E 00	0.	0.	0.	0.	1.24E-01 6.11E-06	1.86E-06	7.74E-05	3.19E 00					
54	5.40 0.	0.	0.	0.	0.	0.	0.	3.32E-01 1.41E 00	0.	0.	0.	0.	1.25E-01 6.46E-06	1.88E-06	7.88E-05	1.87E 00					
55	5.30 0.	0.	0.	0.	0.	0.	0.	3.43E-01 2.45E 00	0.	0.	0.	0.	1.25E-01 6.83E-06	1.89E-06	8.04E-05	2.92E 00					
56	5.20 0.	0.	0.	0.	0.	0.	0.	3.45E-01 1.16E 00	0.	0.	0.	0.	1.26E-01 7.24E-06	1.91E-06	8.25E-05	1.64E 00					
57	5.10 0.	0.	0.	0.	0.	0.	0.	3.25E-01 1.65E 00	0.	0.	0.	0.	1.27E-01 7.67E-06	1.95E-06	8.45E-05	2.11E 00					
58	5.00 6.39E-02	0.	0.	0.	0.	0.	0.	2.72E-01 1.38E 00	0.	0.	0.	1.81E-03	1.28E-01 8.14E-06	2.00E-06	8.66E-05	1.85E 00					
59	4.90 1.36E-01	0.	0.	0.	0.	0.	0.	2.83E-01 1.24E 00	0.	0.	0.	1.81E-03	1.29E-01 8.65E-06	2.05E-06	8.87E-05	1.79E 00					
60	4.80 2.23E-01	0.	0.	0.	0.	0.	0.	2.93E-01 1.14E 00	0.	0.	0.	1.81E-03	1.31E-01 9.20E-06	2.10E-06	9.08E-05	1.79E 00					
61	4.70 2.62E-01	0.	0.	0.	0.	0.	0.	2.68E-01 8.67E-01	0.	0.	0.	1.81E-03	1.32E-01 9.81E-06	2.14E-06	9.30E-05	1.53E 00					
62	4.60 3.19E-01	0.	0.	0.	0.	0.	0.	2.60E-01 8.44E-01	0.	0.	0.	1.81E-03	1.33E-01 1.05E-05	2.19E-06	9.52E-05	1.56E 00					
63	4.50 3.03E-01	0.	0.	0.	0.	0.	0.	2.13E-01 5.45E-01	0.	0.	0.	1.81E-03	1.34E-01 1.12E-05	2.26E-06	9.75E-05	1.20E 00					
64	4.40 2.90E-01	0.	0.	0.	0.	0.	0.	2.02E-01 4.34E-01	0.	0.	0.	1.81E-03	1.35E-01 1.20E-05	2.32E-06	9.97E-05	1.07E 00					
65	4.30 2.47E-01	0.	0.	0.	0.	0.	0.	1.74E-01 2.17E-01	0.	0.	0.	1.81E-03	1.36E-01 1.28E-05	2.38E-06	1.02E-04	7.82E-01					
66	4.20 2.13E-01	0.	0.	0.	0.	0.	0.	1.75E-01 1.91E-01	0.	0.	0.	1.81E-03	1.37E-01 1.37E-05	2.44E-06	1.04E-04	7.48E-01					
67	4.10 1.84E-01	0.	0.	0.	0.	0.	0.	1.53E-01 4.70E-02	0.	0.	0.	1.81E-03	1.37E-01 1.48E-05	2.51E-06	1.06E-04	5.31E-01					
68	4.00 1.55E-01	0.	0.	0.	0.	0.	0.	1.37E-01 3.50E-02	0.	0.	0.	1.81E-03	1.38E-01 1.59E-05	2.57E-06	7.05E-06	5.07E-01					
69	3.90 1.18E-01	0.	0.	0.	0.	0.	0.	1.09E-01 1.68E-02	0.	0.	0.	1.81E-03	1.37E-01 1.72E-05	1.64E-06	7.25E-06	4.02E-01					
70	3.80 1.23E-01	0.	0.	0.	0.	0.	0.	1.14E-01 0.	0.	0.	0.	1.81E-03	1.37E-01 1.86E-05	1.67E-06	7.47E-06	3.97E-01					
71	3.70 9.39E-02	0.	0.	0.	0.	0.	0.	7.97E-02 0.	0.	0.	0.	1.81E-03	1.35E-01 2.01E-05	1.31E-06	8.59E-06	3.46E-01					
72	3.60 7.80E-02	0.	0.	0.	0.	0.	0.	8.76E-02 0.	0.	0.	0.	1.81E-03	1.26E-01 2.19E-05	1.41E-06	9.90E-06	3.07E-01					
73	3.50 6.60E-02	0.	0.	0.	0.	0.	0.	8.68E-02 0.	0.	0.	0.	1.81E-03	1.16E-01 2.38E-05	1.17E-06	1.13E-05	2.66E-01					
74	3.40 5.34E-02	0.	0.	0.	0.	0.	0.	6.25E-02 0.	0.	0.	0.	1.81E-03	6.67E-02 2.60E-05	1.33E-06	1.27E-05	1.94E-01					
75	3.30 3.94E-02	0.	0.	0.	0.	0.	0.	4.22E-02 0.	0.	0.	0.	1.81E-03	6.68E-02 2.84E-05	1.49E-06	1.41E-05	1.63E-01					
76	3.20 3.08E-02	0.	0.	0.	0.	0.	0.	4.20E-02 0.	0.	0.	0.	1.81E-03	6.69E-02 3.12E-05	1.65E-06	1.56E-05	1.48E-01					
77	3.10 2.66E-02	0.	0.	0.	0.	0.	0.	3.48E-02 0.	0.	0.	0.	1.81E-03	6.70E-02 3.43E-05	1.81E-06	1.71E-05	1.35E-01					
78	3.00 2.11E-02	0.	0.	0.	0.	0.	0.	2.90E-02 0.	0.	0.	0.	1.81E-03	6.72E-02 3.79E-05	1.97E-06	1.86E-05	1.22E-01					
79	2.90 1.56E-02	0.	0.	0.	0.	0.	0.	1.81E-02 0.	0.	0.	0.	1.81E-03	6.73E-02 4.19E-05	2.14E-06	2.01E-05	1.04E-01					
80	2.80 1.48E-02	0.	0.	0.	0.	0.	0.	9.76E-03 0.	0.	0.	0.	1.81E-03	6.74E-02 4.66E-05	2.31E-06	2.16E-05	9.45E-02					
81	2.70 7.93E-03	0.	0.	0.	0.	0.	0.	4.12E-03 0.	0.	0.	0.	1.81E-03	6.74E-02 5.20E-05	2.49E-06	2.32E-05	8.17E-02					
82	2.60 2.95E-03	0.	0.	0.	0.	0.	0.	1.44E-03 0.	0.	0.	0.	1.81E-03	6.74E-02 5.83E-05	2.68E-06	2.48E-05	7.39E-02					
83	2.50 1.87E-04	0.	0.	0.	0.	0.	0.	2.97E-04 0.	0.	0.	0.	1.81E-03	6.74E-02 6.56E-05	2.96E-06	5.84E-06	6.98E-02					
84	2.40 0.	0.	0.	0.	0.	0.	0.	9.08E-06 2.82E-05	0.	0.	0.	1.81E-03	6.74E-02 7.42E-05	3.33E-06	7.19E-06	7.08E-02					
85	2.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	6.69E-02 8.43E-05	3.55E-06	8.60E-06	7.76E-02					
86	2.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	6.66E-02 9.64E-05	3.83E-06	1.03E-05	8.45E-02					
87	2.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	6.63E-02 1.11E-04	4.24E-06	1.21E-05	9.76E-02					
88	2.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	6.42E-02 1.29E-04	4.73E-06	1.38E-05	1.06E-01					
89	1.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	6.18E-02 1.50E-04	5.20E-06	1.56E-05	1.17E-01					
90	1.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	5.91E-02 1.77E-04	5.71E-06	1.83E-05	1.33E-01					
91	1.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	5.56E-02 2.10E-04	6.37E-06	2.16E-05	1.67E-01					
92	1.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	4.71E-02 2.52E-04	7.24E-06	2.48E-05	1.25E-01					
93	1.50 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	2.14E-02 3.07E-04	8.10E-06	2.91E-05	1.17E-01					
94	1.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	0.	9.62E-06	3.22E-05	1.11E-01					
95	1.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	0.	4.73E-04	4.00E-05	7.62E-02					
96	1.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	0.	6.03E-04	3.20E-05	8.52E-02					
97	1.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	0.	7.85E-04	3.95E-05	6.17E-02					
98	1.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	0.	1.05E-03	4.15E-05	6.02E-02					
99	0.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	0.	1.44E-03	4.74E-05	4.74E-02					
100	0.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	0.	2.06E-03	5.57E-05	2.64E-02					
101	0.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	0.	3.10E-03	6.26E-05	1.22E-02					
102	0.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-03	0.	4.96E-03	6.97E-05	1.37E-02					

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)			700C.	DENSITY (GM/CC)	1.293E-03 ( 1.0E CO NORMAL)	PHOTO-DET (IONS)			FREE-FREE	N	P.E.	O	P.E.	TOTAL AIR			
N2 B-H			NO	BETA	NO	NO	GAMMA	NO	2	O-	PHOTO-DET (IONS)	FREE-FREE	N	P.E.	O	P.E.	TOTAL AIR
PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO	GAMMA	NO	2	O-	PHOTO-DET (IONS)	FREE-FREE	N	P.E.	O	P.E.	TOTAL AIR
1 10.70 0.	0.	0.	2.00E 00	0.	0.	0.	0.	0.	0.	3.14E-03	3.26E-08	2.38E-06	6.37E-06	6.37E-06	2.01E 00	6.37E-06	2.01E 00
2 10.60 0.	0.	0.	1.63E 00	0.	0.	0.	0.	0.	0.	3.15E-03	3.36E-08	2.39E-06	6.38E-06	6.38E-06	1.63E 00	6.38E-06	1.63E 00
3 10.50 0.	0.	0.	1.54E 00	0.	0.	0.	0.	0.	0.	3.15E-03	3.46E-08	2.40E-06	6.38E-06	6.38E-06	1.54E 00	6.38E-06	1.54E 00
4 10.40 0.	0.	0.	1.32E 00	0.	0.	0.	0.	0.	0.	3.16E-03	3.56E-08	2.41E-06	6.39E-06	6.39E-06	1.32E 00	6.39E-06	1.32E 00
5 10.30 0.	0.	0.	1.03E 00	0.	0.	0.	0.	0.	0.	3.16E-03	3.66E-08	2.42E-06	6.40E-06	6.40E-06	1.03E 00	6.40E-06	1.03E 00
6 10.20 0.	0.	0.	9.84E-01	0.	0.	0.	0.	0.	0.	3.17E-03	3.77E-08	2.42E-06	6.41E-06	6.41E-06	9.84E-01	6.41E-06	9.84E-01
7 10.10 0.	0.	0.	8.60E-01	0.	0.	0.	0.	0.	0.	3.17E-03	3.88E-08	2.43E-06	6.42E-06	6.42E-06	8.60E-01	6.42E-06	8.60E-01
8 10.00 0.	0.	0.	6.48E-01	0.	0.	0.	0.	0.	0.	3.17E-03	4.00E-08	2.44E-06	6.43E-06	6.43E-06	6.48E-01	6.43E-06	6.48E-01
9 9.90 0.	0.	0.	6.46E-01	0.	0.	0.	0.	0.	0.	3.18E-03	4.13E-08	2.44E-06	6.44E-06	6.44E-06	6.46E-01	6.44E-06	6.46E-01
10 9.80 0.	0.	0.	5.43E-01	0.	0.	0.	0.	0.	0.	3.19E-03	4.25E-08	2.45E-06	6.44E-06	6.44E-06	5.43E-01	6.44E-06	5.43E-01
11 9.70 0.	0.	0.	4.06E-01	0.	0.	0.	0.	0.	0.	3.19E-03	4.39E-08	2.45E-06	6.45E-06	6.45E-06	4.06E-01	6.45E-06	4.06E-01
12 9.60 0.	0.	0.	4.34E-01	0.	0.	0.	0.	0.	0.	3.20E-03	4.53E-08	2.46E-06	6.46E-06	6.46E-06	4.34E-01	6.46E-06	4.34E-01
13 9.50 0.	1.17E-01	0.	3.17E-01	0.	0.	0.	0.	0.	0.	3.20E-03	4.67E-08	2.47E-06	6.47E-06	6.47E-06	4.38E-01	6.47E-06	4.38E-01
14 9.40 0.	1.32E-01	0.	2.70E-01	0.	0.	0.	0.	0.	0.	3.21E-03	4.82E-08	2.47E-06	6.48E-06	6.48E-06	4.04E-01	6.48E-06	4.04E-01
15 9.30 0.	1.46E-01	0.	2.67E-01	0.	0.	0.	0.	0.	0.	3.23E-03	4.98E-08	2.48E-06	6.49E-06	6.49E-06	4.17E-01	6.49E-06	4.17E-01
16 9.20 0.	1.60E-01	0.	1.81E-01	0.	0.	0.	0.	0.	0.	3.24E-03	5.14E-08	2.48E-06	6.49E-06	6.49E-06	3.45E-01	6.49E-06	3.45E-01
17 9.10 0.	1.95E-01	0.	1.87E-01	0.	0.	0.	0.	0.	0.	3.25E-03	5.32E-08	2.49E-06	6.50E-06	6.50E-06	3.85E-01	6.50E-06	3.85E-01
18 9.00 0.	2.33E-01	0.	1.48E-01	0.	0.	0.	0.	0.	0.	3.26E-03	5.50E-08	2.50E-06	6.51E-06	6.51E-06	3.84E-01	6.51E-06	3.84E-01
19 8.90 0.	2.71E-01	0.	1.22E-01	0.	0.	0.	0.	0.	0.	3.27E-03	5.68E-08	2.50E-06	6.52E-06	6.52E-06	3.97E-01	6.52E-06	3.97E-01
20 8.80 0.	2.82E-01	0.	1.14E-01	0.	0.	0.	0.	0.	0.	3.28E-03	5.88E-08	2.51E-06	6.53E-06	6.53E-06	3.99E-01	6.53E-06	3.99E-01
21 8.70 0.	2.71E-01	0.	8.35E-02	0.	0.	0.	0.	0.	0.	3.30E-03	6.09E-08	2.52E-06	6.54E-06	6.54E-06	3.58E-01	6.54E-06	3.58E-01
22 8.60 0.	2.60E-01	0.	8.39E-02	0.	0.	0.	0.	0.	0.	3.31E-03	6.30E-08	2.53E-06	6.55E-06	6.55E-06	3.47E-01	6.55E-06	3.47E-01
23 8.50 0.	2.52E-01	0.	6.22E-02	0.	0.	0.	0.	0.	0.	3.32E-03	6.53E-08	2.54E-06	6.56E-06	6.56E-06	3.17E-01	6.56E-06	3.17E-01
24 8.40 0.	2.45E-01	0.	5.90E-02	0.	0.	0.	0.	0.	0.	3.34E-03	6.77E-08	2.55E-06	6.57E-06	6.57E-06	3.07E-01	6.57E-06	3.07E-01
25 8.30 0.	2.35E-01	0.	4.28E-02	0.	0.	0.	0.	0.	0.	3.35E-03	7.02E-08	2.56E-06	6.58E-06	6.58E-06	2.82E-01	6.58E-06	2.82E-01
26 8.20 0.	2.27E-01	0.	4.11E-02	0.	0.	0.	0.	0.	0.	3.37E-03	7.28E-08	2.57E-06	6.60E-06	6.60E-06	2.71E-01	6.60E-06	2.71E-01
27 8.10 0.	2.19E-01	0.	3.06E-02	0.	0.	0.	0.	0.	0.	3.39E-03	7.55E-08	2.58E-06	6.61E-06	6.61E-06	2.53E-01	6.61E-06	2.53E-01
28 8.00 0.	2.11E-01	0.	2.89E-02	0.	0.	0.	0.	0.	0.	3.41E-03	7.84E-08	2.59E-06	6.62E-06	6.62E-06	2.43E-01	6.62E-06	2.43E-01
29 7.90 0.	2.01E-01	0.	2.17E-02	0.	0.	0.	0.	0.	0.	3.42E-03	8.14E-08	2.60E-06	6.63E-06	6.63E-06	2.26E-01	6.63E-06	2.26E-01
30 7.80 0.	1.92E-01	0.	2.09E-02	0.	0.	0.	0.	0.	0.	3.44E-03	8.46E-08	2.61E-06	6.64E-06	6.64E-06	2.16E-01	6.64E-06	2.16E-01
31 7.70 0.	1.81E-01	0.	1.61E-02	0.	0.	0.	0.	0.	0.	3.46E-03	8.80E-08	2.62E-06	6.65E-06	6.65E-06	2.01E-01	6.65E-06	2.01E-01
32 7.60 0.	1.70E-01	0.	1.39E-02	0.	0.	0.	0.	0.	0.	3.48E-03	9.15E-08	2.63E-06	6.66E-06	6.66E-06	1.87E-01	6.66E-06	1.87E-01
33 7.50 0.	1.58E-01	0.	1.14E-02	0.	0.	0.	0.	0.	0.	3.49E-03	9.52E-08	2.64E-06	6.67E-06	6.67E-06	1.73E-01	6.67E-06	1.73E-01
34 7.40 0.	1.49E-01	0.	9.30E-03	0.	0.	0.	0.	0.	0.	3.51E-03	9.92E-08	2.65E-06	6.68E-06	6.68E-06	1.62E-01	6.68E-06	1.62E-01
35 7.30 0.	1.41E-01	0.	7.90E-03	0.	0.	0.	0.	0.	0.	3.53E-03	1.03E-07	2.66E-06	6.69E-06	6.69E-06	1.54E-01	6.69E-06	1.54E-01
36 7.20 0.	1.31E-01	0.	6.37E-03	0.	0.	0.	0.	0.	0.	3.55E-03	1.08E-07	2.67E-06	6.70E-06	6.70E-06	1.46E-01	6.70E-06	1.46E-01
37 7.10 0.	1.20E-01	0.	5.52E-03	0.	0.	0.	0.	0.	0.	3.58E-03	1.12E-07	2.68E-06	6.71E-06	6.71E-06	1.39E-01	6.71E-06	1.39E-01
38 7.00 0.	2.10E-04	0.	4.52E-03	0.	0.	0.	0.	0.	0.	3.61E-03	1.17E-07	2.69E-06	6.72E-06	6.72E-06	1.29E-01	6.72E-06	1.29E-01
39 6.90 0.	3.84E-04	0.	3.72E-03	0.	0.	0.	0.	0.	0.	3.64E-03	1.22E-07	2.70E-06	6.73E-06	6.73E-06	1.20E-01	6.73E-06	1.20E-01
40 6.80 0.	3.08E-04	0.	3.18E-03	0.	0.	0.	0.	0.	0.	3.67E-03	1.28E-07	2.71E-06	6.74E-06	6.74E-06	1.16E-01	6.74E-06	1.16E-01
41 6.70 0.	2.00E-04	0.	2.47E-03	0.	0.	0.	0.	0.	0.	3.70E-03	1.34E-07	2.72E-06	6.75E-06	6.75E-06	1.10E-01	6.75E-06	1.10E-01
42 6.60 0.	1.18E-04	0.	1.96E-03	0.	0.	0.	0.	0.	0.	3.73E-03	1.40E-07	2.73E-06	6.76E-06	6.76E-06	1.07E-01	6.76E-06	1.07E-01
43 6.50 0.	6.29E-05	0.	1.35E-03	0.	0.	0.	0.	0.	0.	3.76E-03	1.46E-07	2.74E-06	6.77E-06	6.77E-06	1.00E-01	6.77E-06	1.00E-01
44 6.40 0.	3.23E-05	0.	7.54E-04	0.	0.	0.	0.	0.	0.	3.79E-03	1.53E-07	2.75E-06	6.78E-06	6.78E-06	9.56E-02	6.78E-06	9.56E-02
45 6.30 0.	1.69E-05	0.	3.72E-04	0.	0.	0.	0.	0.	0.	3.81E-03	1.61E-07	2.76E-06	6.79E-06	6.79E-06	9.32E-02	6.79E-06	9.32E-02
46 6.20 0.	6.88E-06	0.	1.66E-04	0.	0.	0.	0.	0.	0.	3.84E-03	1.69E-07	2.77E-06	6.80E-06	6.80E-06	9.01E-02	6.80E-06	9.01E-02
47 6.10 0.	2.81E-06	0.	6.42E-05	0.	0.	0.	0.	0.	0.	3.87E-03	1.77E-07	2.78E-06	6.81E-06	6.81E-06	8.66E-02	6.81E-06	8.66E-02
48 6.00 0.	1.06E-06	0.	1.44E-05	0.	0.	0.	0.	0.	0.	3.90E-03	1.86E-07	2.79E-06	6.82E-06	6.82E-06	8.44E-02	6.82E-06	8.44E-02
49 5.90 0.	2.43E-07	0.	1.01E-06	0.	0.	0.	0.	0.	0.	3.90E-03	1.86E-07	2.80E-06	6.83E-06	6.83E-06	8.44E-02	6.83E-06	8.44E-02
50 5.80 0.	3.02E-08	0.	5.80E-07	0.	0.	0.	0.	0.	0.	3.90E-03	1.86E-07	2.80E-06	6.83E-06	6.83E-06	8.44E-02	6.83E-06	8.44E-02
51 5.70 0.	2.21E-09	0.	0.	0.	0.	0.	0.	0.	0.	3.90E-03	1.86E-07	2.80E-06	6.83E-06	6.83E-06	8.44E-02	6.83E-06	8.44E-02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		7000.		1.293E-03 ( 1.0E 00 NORMAL)		FREE-FREE		N		O		TOTAL AIR	
ENERGY BANDS	1ST POS.	N2	N2+	N2	BETA	GAMMA	NO	NO	NO	PHOTO-DET (IONS)	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.
52	5.60	9.56E-11	0.	0.	1.29E-02	9.95E-02	0.	0.	0.	3.36E-03	2.29E-07	5.74E-07	9.53E-06	1.16E-01	1.16E-01	1.16E-01	1.16E-01
53	5.50	0.	0.	0.	1.62E-02	1.03E-01	0.	0.	0.	3.37E-03	2.42E-07	5.77E-07	9.70E-06	1.23E-01	1.23E-01	1.23E-01	1.23E-01
54	5.40	0.	0.	0.	1.29E-02	5.48E-02	0.	0.	0.	3.39E-03	2.56E-07	5.82E-07	9.88E-06	7.12E-02	7.12E-02	7.12E-02	7.12E-02
55	5.30	0.	0.	0.	1.33E-02	9.51E-02	0.	0.	0.	3.41E-03	2.71E-07	5.86E-07	1.01E-05	1.01E-05	1.01E-05	1.01E-05	1.01E-05
56	5.20	0.	0.	0.	1.26E-02	4.52E-02	0.	0.	0.	3.44E-03	2.87E-07	5.92E-07	1.03E-05	6.21E-02	6.21E-02	6.21E-02	6.21E-02
57	5.10	0.	0.	0.	1.06E-02	6.42E-02	0.	0.	0.	3.46E-03	3.04E-07	6.06E-07	1.06E-05	8.03E-02	8.03E-02	8.03E-02	8.03E-02
58	5.00	1.00E-03	0.	0.	1.10E-02	5.38E-02	0.	0.	0.	3.49E-03	3.23E-07	6.21E-07	1.09E-05	6.89E-02	6.89E-02	6.89E-02	6.89E-02
59	4.90	2.14E-03	0.	0.	1.10E-02	4.81E-02	0.	0.	0.	3.52E-03	3.43E-07	6.36E-07	1.11E-05	6.48E-02	6.48E-02	6.48E-02	6.48E-02
60	4.80	3.5E-03	0.	0.	1.14E-02	4.45E-02	0.	0.	0.	3.55E-03	3.65E-07	6.50E-07	1.14E-05	6.29E-02	6.29E-02	6.29E-02	6.29E-02
61	4.70	4.12E-03	0.	0.	1.04E-02	3.37E-02	0.	0.	0.	3.58E-03	3.88E-07	6.64E-07	1.17E-05	5.18E-02	5.18E-02	5.18E-02	5.18E-02
62	4.60	5.02E-03	0.	0.	1.01E-02	3.28E-02	0.	0.	0.	3.61E-03	4.14E-07	6.80E-07	1.19E-05	5.15E-02	5.15E-02	5.15E-02	5.15E-02
63	4.50	4.76E-03	0.	0.	8.28E-03	2.12E-02	0.	0.	0.	3.64E-03	4.43E-07	6.99E-07	1.22E-05	3.79E-02	3.79E-02	3.79E-02	3.79E-02
64	4.40	4.55E-03	0.	0.	7.85E-03	1.69E-02	0.	0.	0.	3.67E-03	4.74E-07	7.19E-07	1.25E-05	3.33E-02	3.33E-02	3.33E-02	3.33E-02
65	4.30	3.88E-03	0.	0.	6.76E-03	8.45E-03	0.	0.	0.	3.70E-03	5.07E-07	7.38E-07	1.28E-05	2.34E-02	2.34E-02	2.34E-02	2.34E-02
66	4.20	3.35E-03	0.	0.	6.81E-03	7.42E-03	0.	0.	0.	3.73E-03	5.45E-07	7.57E-07	1.31E-05	2.42E-02	2.42E-02	2.42E-02	2.42E-02
67	4.10	2.90E-03	0.	0.	5.95E-03	1.83E-03	0.	0.	0.	3.74E-03	5.86E-07	7.77E-07	1.34E-05	1.51E-02	1.51E-02	1.51E-02	1.51E-02
68	4.00	2.44E-03	0.	0.	5.31E-03	1.36E-03	0.	0.	0.	3.76E-03	6.31E-07	7.98E-07	1.37E-05	1.68E-02	1.68E-02	1.68E-02	1.68E-02
69	3.90	1.85E-03	0.	0.	4.24E-03	6.53E-04	0.	0.	0.	3.77E-03	6.81E-07	8.19E-07	1.40E-05	1.23E-02	1.23E-02	1.23E-02	1.23E-02
70	3.80	1.93E-03	0.	0.	4.42E-03	0.	0.	0.	0.	3.78E-03	7.26E-07	8.40E-07	1.43E-05	1.17E-02	1.17E-02	1.17E-02	1.17E-02
71	3.70	1.48E-03	0.	0.	3.45E-03	6.92E-05	0.	0.	0.	3.79E-03	7.73E-07	8.61E-07	1.46E-05	9.45E-03	9.45E-03	9.45E-03	9.45E-03
72	3.60	1.23E-03	0.	0.	1.31E-03	6.92E-05	0.	0.	0.	3.80E-03	8.22E-07	8.82E-07	1.49E-05	9.16E-03	9.16E-03	9.16E-03	9.16E-03
73	3.50	1.04E-03	0.	0.	2.44E-03	3.17E-04	0.	0.	0.	3.81E-03	8.73E-07	9.03E-07	1.52E-05	6.03E-03	6.03E-03	6.03E-03	6.03E-03
74	3.40	8.39E-04	0.	0.	9.28E-04	1.23E-05	0.	0.	0.	3.82E-03	9.26E-07	9.26E-07	1.55E-05	5.33E-03	5.33E-03	5.33E-03	5.33E-03
75	3.30	6.27E-04	0.	0.	1.13E-03	9.90E-05	0.	0.	0.	3.83E-03	9.81E-07	9.47E-07	1.58E-05	4.84E-03	4.84E-03	4.84E-03	4.84E-03
76	3.20	4.85E-04	0.	0.	5.27E-04	3.67E-04	0.	0.	0.	3.84E-03	1.03E-06	9.68E-07	1.61E-05	4.05E-03	4.05E-03	4.05E-03	4.05E-03
77	3.10	4.17E-04	0.	0.	4.24E-04	1.94E-05	0.	0.	0.	3.85E-03	1.08E-06	9.89E-07	1.64E-05	3.61E-03	3.61E-03	3.61E-03	3.61E-03
78	3.00	3.32E-04	0.	0.	2.09E-04	1.02E-04	0.	0.	0.	3.86E-03	1.13E-06	1.01E-06	1.67E-05	3.06E-03	3.06E-03	3.06E-03	3.06E-03
79	2.90	2.45E-04	0.	0.	1.23E-04	8.42E-05	0.	0.	0.	3.87E-03	1.18E-06	1.03E-06	1.70E-05	2.53E-03	2.53E-03	2.53E-03	2.53E-03
80	2.80	2.33E-04	0.	0.	5.45E-05	1.77E-05	0.	0.	0.	3.88E-03	1.23E-06	1.05E-06	1.73E-05	2.21E-03	2.21E-03	2.21E-03	2.21E-03
81	2.70	1.25E-04	0.	0.	2.49E-05	5.04E-05	0.	0.	0.	3.89E-03	1.28E-06	1.07E-06	1.76E-05	1.97E-03	1.97E-03	1.97E-03	1.97E-03
82	2.60	4.64E-05	0.	0.	1.27E-05	5.05E-06	0.	0.	0.	3.90E-03	1.33E-06	1.09E-06	1.79E-05	1.87E-03	1.87E-03	1.87E-03	1.87E-03
83	2.50	2.95E-06	0.	0.	1.85E-06	2.74E-06	0.	0.	0.	3.91E-03	1.38E-06	1.11E-06	1.82E-05	1.99E-03	1.99E-03	1.99E-03	1.99E-03
84	2.40	0.	0.	0.	1.38E-04	0.	0.	0.	0.	3.92E-03	1.43E-06	1.13E-06	1.85E-05	2.68E-03	2.68E-03	2.68E-03	2.68E-03
85	2.30	0.	0.	0.	8.49E-04	0.	0.	0.	0.	3.93E-03	1.48E-06	1.15E-06	1.88E-05	3.36E-03	3.36E-03	3.36E-03	3.36E-03
86	2.20	0.	0.	0.	1.54E-03	0.	0.	0.	0.	3.94E-03	1.53E-06	1.17E-06	1.91E-05	4.64E-03	4.64E-03	4.64E-03	4.64E-03
87	2.10	0.	0.	0.	2.82E-03	0.	0.	0.	0.	3.95E-03	1.58E-06	1.19E-06	1.94E-05	5.64E-03	5.64E-03	5.64E-03	5.64E-03
88	2.00	0.	0.	0.	3.88E-03	0.	0.	0.	0.	3.96E-03	1.63E-06	1.21E-06	1.97E-05	6.44E-03	6.44E-03	6.44E-03	6.44E-03
89	1.90	0.	0.	0.	1.05E-02	0.	0.	0.	0.	3.97E-03	1.68E-06	1.23E-06	1.99E-05	7.13E-03	7.13E-03	7.13E-03	7.13E-03
90	1.80	0.	0.	0.	8.86E-03	0.	0.	0.	0.	3.98E-03	1.73E-06	1.25E-06	2.02E-05	7.99E-03	7.99E-03	7.99E-03	7.99E-03
91	1.70	0.	0.	0.	1.05E-02	0.	0.	0.	0.	3.99E-03	1.78E-06	1.27E-06	2.05E-05	8.72E-03	8.72E-03	8.72E-03	8.72E-03
92	1.60	0.	0.	0.	7.26E-03	0.	0.	0.	0.	4.00E-03	1.83E-06	1.29E-06	2.08E-05	9.63E-03	9.63E-03	9.63E-03	9.63E-03
93	1.50	0.	0.	0.	9.03E-03	0.	0.	0.	0.	4.01E-03	1.88E-06	1.31E-06	2.11E-05	1.05E-02	1.05E-02	1.05E-02	1.05E-02
94	1.40	0.	0.	0.	1.04E-02	0.	0.	0.	0.	4.02E-03	1.93E-06	1.33E-06	2.14E-05	1.13E-03	1.13E-03	1.13E-03	1.13E-03
95	1.30	0.	0.	0.	7.10E-03	0.	0.	0.	0.	4.03E-03	1.98E-06	1.35E-06	2.17E-05	1.22E-02	1.22E-02	1.22E-02	1.22E-02
96	1.20	0.	0.	0.	7.95E-03	0.	0.	0.	0.	4.04E-03	2.03E-06	1.37E-06	2.20E-05	1.30E-02	1.30E-02	1.30E-02	1.30E-02
97	1.10	0.	0.	0.	5.68E-03	0.	0.	0.	0.	4.05E-03	2.08E-06	1.39E-06	2.23E-05	1.39E-02	1.39E-02	1.39E-02	1.39E-02
98	1.00	0.	0.	0.	5.49E-03	0.	0.	0.	0.	4.06E-03	2.13E-06	1.41E-06	2.26E-05	1.48E-02	1.48E-02	1.48E-02	1.48E-02
99	0.90	0.	0.	0.	4.22E-03	0.	0.	0.	0.	4.07E-03	2.18E-06	1.43E-06	2.29E-05	1.57E-02	1.57E-02	1.57E-02	1.57E-02
100	0.80	0.	0.	0.	1.92E-03	0.	0.	0.	0.	4.08E-03	2.23E-06	1.45E-06	2.32E-05	1.66E-02	1.66E-02	1.66E-02	1.66E-02
101	0.70	0.	0.	0.	5.38E-04	0.	0.	0.	0.	4.09E-03	2.28E-06	1.47E-06	2.35E-05	1.75E-02	1.75E-02	1.75E-02	1.75E-02
102	0.60	0.	0.	0.	1.46E-05	0.	0.	0.	0.	4.10E-03	2.33E-06	1.49E-06	2.38E-05	1.84E-02	1.84E-02	1.84E-02	1.84E-02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON U2 S-R		O2 S-R	N2 B-H	TEMPERATURE (DEGREES K)		NO	NO	DENSITY (GM/CC)		1.293E-04 (1.0E-01 NORMAL)		FREE-FREE		N		TOTAL AIR	
ENERGY	BANDS	CONT.	NU. 1	NO	BETA	GAMMA	NO	PHOTO-DET	IONS	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.
1 10.70 0.	1.61E-01	0.	1.61E-01	0.	0.	0.	0.	6.29E-05	1.11E-09	6.73E-07	6.83E-07	6.83E-07	1.61E-01	6.83E-07	6.83E-07	1.61E-01	6.83E-07
2 10.60 0.	1.31E-01	0.	1.31E-01	0.	0.	0.	0.	6.30E-05	1.14E-09	6.77E-07	6.84E-07	6.84E-07	1.31E-01	6.84E-07	6.84E-07	1.31E-01	6.84E-07
3 10.50 0.	1.23E-01	0.	1.23E-01	0.	0.	0.	0.	6.30E-05	1.17E-09	6.80E-07	6.85E-07	6.85E-07	1.23E-01	6.85E-07	6.85E-07	1.23E-01	6.85E-07
4 10.40 0.	1.06E-01	0.	1.06E-01	0.	0.	0.	0.	6.31E-05	1.21E-09	6.83E-07	6.86E-07	6.86E-07	1.06E-01	6.86E-07	6.86E-07	1.06E-01	6.86E-07
5 10.30 0.	8.22E-02	0.	8.22E-02	0.	0.	0.	0.	6.32E-05	1.24E-09	6.84E-07	6.87E-07	6.87E-07	8.22E-02	6.87E-07	6.87E-07	8.22E-02	6.87E-07
6 10.20 0.	7.89E-02	0.	7.89E-02	0.	0.	0.	0.	6.33E-05	1.28E-09	6.86E-07	6.88E-07	6.88E-07	7.89E-02	6.88E-07	6.88E-07	7.89E-02	6.88E-07
7 10.10 0.	6.90E-02	0.	6.90E-02	0.	0.	0.	0.	6.34E-05	1.32E-09	6.88E-07	6.89E-07	6.89E-07	6.90E-02	6.89E-07	6.89E-07	6.90E-02	6.89E-07
8 10.00 0.	5.19E-02	0.	5.19E-02	0.	0.	0.	0.	6.35E-05	1.36E-09	6.89E-07	6.89E-07	6.89E-07	5.19E-02	6.89E-07	6.89E-07	5.19E-02	6.89E-07
9 9.90 0.	5.18E-02	0.	5.18E-02	0.	0.	0.	0.	6.36E-05	1.40E-09	6.91E-07	6.90E-07	6.90E-07	5.18E-02	6.90E-07	6.90E-07	5.18E-02	6.90E-07
10 9.80 0.	4.35E-02	0.	4.35E-02	0.	0.	0.	0.	6.37E-05	1.44E-09	6.93E-07	6.91E-07	6.91E-07	4.35E-02	6.91E-07	6.91E-07	4.35E-02	6.91E-07
11 9.70 0.	3.26E-02	0.	3.26E-02	0.	0.	0.	0.	6.38E-05	1.49E-09	6.94E-07	6.92E-07	6.92E-07	3.26E-02	6.92E-07	6.92E-07	3.26E-02	6.92E-07
12 9.60 0.	3.48E-02	0.	3.48E-02	0.	0.	0.	0.	6.39E-05	1.54E-09	6.96E-07	6.93E-07	6.93E-07	3.48E-02	6.93E-07	6.93E-07	3.48E-02	6.93E-07
13 9.50 0.	1.34E-03	1.34E-03	1.34E-03	0.	0.	0.	0.	6.40E-05	1.59E-09	6.98E-07	6.94E-07	6.94E-07	1.34E-03	6.94E-07	6.94E-07	1.34E-03	6.94E-07
14 9.40 0.	1.51E-03	2.16E-02	1.51E-03	0.	0.	0.	0.	6.43E-05	1.64E-09	7.00E-07	6.95E-07	6.95E-07	2.16E-02	6.95E-07	6.95E-07	2.16E-02	6.95E-07
15 9.30 0.	1.67E-03	2.14E-02	1.67E-03	0.	0.	0.	0.	6.45E-05	1.69E-09	7.01E-07	6.96E-07	6.96E-07	2.14E-02	6.96E-07	6.96E-07	2.14E-02	6.96E-07
16 9.20 0.	1.84E-03	1.45E-02	1.84E-03	0.	0.	0.	0.	6.47E-05	1.75E-09	7.02E-07	6.97E-07	6.97E-07	1.45E-02	6.97E-07	6.97E-07	1.45E-02	6.97E-07
17 9.10 0.	2.24E-03	1.50E-02	2.24E-03	0.	0.	0.	0.	6.50E-05	1.81E-09	7.03E-07	6.98E-07	6.98E-07	1.50E-02	6.98E-07	6.98E-07	1.50E-02	6.98E-07
18 9.00 0.	2.68E-03	1.19E-02	2.68E-03	0.	0.	0.	0.	6.52E-05	1.87E-09	7.04E-07	6.99E-07	6.99E-07	1.19E-02	6.99E-07	6.99E-07	1.19E-02	6.99E-07
19 8.90 0.	3.11E-03	9.79E-03	3.11E-03	0.	0.	0.	0.	6.54E-05	1.93E-09	7.05E-07	6.99E-07	6.99E-07	9.79E-03	6.99E-07	6.99E-07	9.79E-03	6.99E-07
20 8.80 0.	3.24E-03	9.12E-03	3.24E-03	0.	0.	0.	0.	6.57E-05	2.00E-09	7.06E-07	7.00E-07	7.00E-07	9.12E-03	7.00E-07	7.00E-07	9.12E-03	7.00E-07
21 8.70 0.	3.11E-03	6.69E-03	3.11E-03	0.	0.	0.	0.	6.59E-05	2.07E-09	7.07E-07	7.01E-07	7.01E-07	6.69E-03	7.01E-07	7.01E-07	6.69E-03	7.01E-07
22 8.60 0.	2.99E-03	6.73E-03	2.99E-03	0.	0.	0.	0.	6.61E-05	2.14E-09	7.08E-07	7.02E-07	7.02E-07	6.73E-03	7.02E-07	7.02E-07	6.73E-03	7.02E-07
23 8.50 0.	2.87E-03	4.98E-03	2.87E-03	0.	0.	0.	0.	6.64E-05	2.22E-09	7.09E-07	7.03E-07	7.03E-07	4.98E-03	7.03E-07	7.03E-07	4.98E-03	7.03E-07
24 8.40 0.	2.81E-03	4.73E-03	2.81E-03	0.	0.	0.	0.	6.67E-05	2.30E-09	7.10E-07	7.04E-07	7.04E-07	4.73E-03	7.04E-07	7.04E-07	4.73E-03	7.04E-07
25 8.30 0.	2.70E-03	3.43E-03	2.70E-03	0.	0.	0.	0.	6.71E-05	2.38E-09	7.11E-07	7.05E-07	7.05E-07	3.43E-03	7.05E-07	7.05E-07	3.43E-03	7.05E-07
26 8.20 0.	2.61E-03	3.29E-03	2.61E-03	0.	0.	0.	0.	6.74E-05	2.47E-09	7.12E-07	7.06E-07	7.06E-07	3.29E-03	7.06E-07	7.06E-07	3.29E-03	7.06E-07
27 8.10 0.	2.51E-03	2.45E-03	2.51E-03	0.	0.	0.	0.	6.78E-05	2.56E-09	7.13E-07	7.07E-07	7.07E-07	2.45E-03	7.07E-07	7.07E-07	2.45E-03	7.07E-07
28 8.00 0.	2.42E-03	2.32E-03	2.42E-03	0.	0.	0.	0.	6.81E-05	2.66E-09	7.14E-07	7.08E-07	7.08E-07	2.32E-03	7.08E-07	7.08E-07	2.32E-03	7.08E-07
29 7.90 0.	2.31E-03	1.74E-03	2.31E-03	0.	0.	0.	0.	6.85E-05	2.77E-09	7.15E-07	7.09E-07	7.09E-07	1.74E-03	7.09E-07	7.09E-07	1.74E-03	7.09E-07
30 7.80 0.	2.20E-03	1.68E-03	2.20E-03	0.	0.	0.	0.	6.88E-05	2.87E-09	7.16E-07	7.10E-07	7.10E-07	1.68E-03	7.10E-07	7.10E-07	1.68E-03	7.10E-07
31 7.70 0.	2.08E-03	1.29E-03	2.08E-03	0.	0.	0.	0.	6.92E-05	2.99E-09	7.17E-07	7.11E-07	7.11E-07	1.29E-03	7.11E-07	7.11E-07	1.29E-03	7.11E-07
32 7.60 0.	1.95E-03	1.12E-03	1.95E-03	0.	0.	0.	0.	6.95E-05	3.11E-09	7.18E-07	7.12E-07	7.12E-07	1.12E-03	7.12E-07	7.12E-07	1.12E-03	7.12E-07
33 7.50 0.	1.82E-03	9.16E-04	1.82E-03	0.	0.	0.	0.	6.99E-05	3.23E-09	7.19E-07	7.13E-07	7.13E-07	9.16E-04	7.13E-07	7.13E-07	9.16E-04	7.13E-07
34 7.40 0.	1.71E-03	7.45E-04	1.71E-03	0.	0.	0.	0.	7.03E-05	3.37E-09	7.20E-07	7.14E-07	7.14E-07	7.45E-04	7.14E-07	7.14E-07	7.45E-04	7.14E-07
35 7.30 0.	1.62E-03	6.34E-04	1.62E-03	0.	0.	0.	0.	7.06E-05	3.51E-09	7.21E-07	7.15E-07	7.15E-07	6.34E-04	7.15E-07	7.15E-07	6.34E-04	7.15E-07
36 7.20 0.	1.50E-03	5.11E-04	1.50E-03	0.	0.	0.	0.	7.10E-05	3.66E-09	7.22E-07	7.16E-07	7.16E-07	5.11E-04	7.16E-07	7.16E-07	5.11E-04	7.16E-07
37 7.10 0.	1.38E-03	4.43E-04	1.38E-03	0.	0.	0.	0.	7.16E-05	3.81E-09	7.23E-07	7.17E-07	7.17E-07	4.43E-04	7.17E-07	7.17E-07	4.43E-04	7.17E-07
38 7.00 0.	2.42E-06	0.	2.42E-06	0.	0.	0.	0.	7.22E-05	3.98E-09	7.24E-07	7.18E-07	7.18E-07	0.	7.18E-07	7.18E-07	0.	7.18E-07
39 6.90 0.	4.42E-06	0.	4.42E-06	0.	0.	0.	0.	7.28E-05	4.16E-09	7.25E-07	7.19E-07	7.19E-07	4.42E-06	7.19E-07	7.19E-07	4.42E-06	7.19E-07
40 6.80 0.	3.55E-06	0.	3.55E-06	0.	0.	0.	0.	7.34E-05	4.34E-09	7.26E-07	7.20E-07	7.20E-07	3.55E-06	7.20E-07	7.20E-07	3.55E-06	7.20E-07
41 6.70 0.	2.39E-06	0.	2.39E-06	0.	0.	0.	0.	7.39E-05	4.54E-09	7.27E-07	7.21E-07	7.21E-07	2.39E-06	7.21E-07	7.21E-07	2.39E-06	7.21E-07
42 6.60 0.	1.36E-06	0.	1.36E-06	0.	0.	0.	0.	7.45E-05	4.75E-09	7.28E-07	7.22E-07	7.22E-07	1.36E-06	7.22E-07	7.22E-07	1.36E-06	7.22E-07
43 6.50 0.	7.23E-07	0.	7.23E-07	0.	0.	0.	0.	7.51E-05	4.97E-09	7.29E-07	7.23E-07	7.23E-07	7.23E-07	7.23E-07	7.23E-07	7.23E-07	7.23E-07
44 6.40 0.	3.72E-07	0.	3.72E-07	0.	0.	0.	0.	7.57E-05	5.21E-09	7.30E-07	7.24E-07	7.24E-07	3.72E-07	7.24E-07	7.24E-07	3.72E-07	7.24E-07
45 6.30 0.	1.94E-07	0.	1.94E-07	0.	0.	0.	0.	7.63E-05	5.46E-09	7.31E-07	7.25E-07	7.25E-07	1.94E-07	7.25E-07	7.25E-07	1.94E-07	7.25E-07
46 6.20 0.	7.91E-08	0.	7.91E-08	0.	0.	0.	0.	7.69E-05	5.73E-09	7.32E-07	7.26E-07	7.26E-07	7.91E-08	7.26E-07	7.26E-07	7.91E-08	7.26E-07
47 6.10 0.	3.23E-08	0.	3.23E-08	0.	0.	0.	0.	7.74E-05	6.02E-09	7.33E-07	7.27E-07	7.27E-07	3.23E-08	7.27E-07	7.27E-07	3.23E-08	7.27E-07
48 6.00 0.	1.22E-08	0.	1.22E-08	0.	0.	0.	0.	7.80E-05	6.33E-09	7.34E-07	7.28E-07	7.28E-07	1.22E-08	7.28E-07	7.28E-07	1.22E-08	7.28E-07
49 5.90 0.	2.81E-09	0.	2.81E-09	0.	0.	0.	0.	7.80E-05	6.66E-09	7.35E-07	7.29E-07	7.29E-07	2.81E-09	7.29E-07	7.29E-07	2.81E-09	7.29E-07
50 5.80 0.	3.40E-10	0.	3.40E-10	0.	0.	0.	0.	7.89E-05	7.01E-09	7.36E-07	7.30E-07	7.30E-07	3.40E-10	7.30E-07	7.30E-07	3.40E-10	7.30E-07
51 5.70 0.	2.54E-11	0.	2.54E-11	0.	0.	0.	0.	7.95E-05	7.39E-09	7.37E-07	7.31E-07	7.31E-07	2.54E-11	7.31E-07	7.31E-07	2.54E-11	7.31E-07

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		7000.	DENSITY (GM/CC) 1.293E-04 (1.0E-01 NORMAL)		FREE-FREE (IONS)		N	O	TOTAL AIR							
PHOTON O2 S-R	N2	N2	1ST POS.	2ND POS.	1ST NEG.	BETA	NO	GAMMA	NO	VIB-ROT	NO	PHOTO-DET	(IONS)	N	O	P.E.
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	BETA	NO	GAMMA	NO	VIB-ROT	NO	PHOTO-DET	(IONS)	N	O	P.E.	TOTAL AIR	
52 5.60 1.1E-12 0.	0.	0.	0.	0.	3.92E-04	3.02E-03	0.	0.	0.	6.71E-05	7.79E-09	1.62E-07	1.02E-06	3.48E-03		
53 5.50 0.	0.	0.	0.	0.	4.92E-04	3.13E-03	0.	0.	0.	6.75E-05	8.22E-09	1.63E-07	1.04E-06	3.69E-03		
54 5.40 0.	0.	0.	0.	0.	3.92E-04	1.67E-03	0.	0.	0.	6.78E-05	8.69E-09	1.65E-07	1.06E-06	2.13E-03		
55 5.30 0.	0.	0.	0.	0.	4.05E-04	2.89E-03	0.	0.	0.	6.83E-05	9.19E-09	1.66E-07	1.08E-06	3.36E-03		
56 5.20 0.	0.	0.	0.	0.	4.07E-04	1.37E-03	0.	0.	0.	6.87E-05	9.74E-09	1.67E-07	1.11E-06	1.85E-03		
57 5.10 0.	0.	0.	0.	0.	3.83E-04	1.95E-03	0.	0.	0.	6.93E-05	1.03E-08	1.71E-07	1.14E-06	2.40E-03		
58 5.00 1.1E-05 0.	0.	0.	0.	0.	3.21E-04	1.63E-03	0.	0.	0.	6.99E-05	1.10E-08	1.76E-07	1.16E-06	2.04E-03		
59 4.90 2.4E-05 0.	0.	0.	0.	0.	3.34E-04	1.46E-03	0.	0.	0.	7.04E-05	1.16E-08	1.80E-07	1.19E-06	1.89E-03		
60 4.80 4.02E-05 0.	0.	0.	0.	0.	3.46E-04	1.35E-03	0.	0.	0.	7.10E-05	1.24E-08	1.84E-07	1.22E-06	1.81E-03		
61 4.70 4.74E-05 0.	0.	0.	0.	0.	3.16E-04	1.02E-03	0.	0.	0.	7.16E-05	1.32E-08	1.88E-07	1.25E-06	1.46E-03		
62 4.60 5.71E-05 0.	0.	0.	0.	0.	3.07E-04	9.96E-04	0.	0.	0.	7.22E-05	1.41E-08	1.93E-07	1.28E-06	1.43E-03		
63 4.50 5.4E-05 0.	5.55E-06	0.	0.	0.	2.52E-04	6.43E-04	0.	0.	0.	7.28E-05	1.50E-08	1.98E-07	1.31E-06	1.03E-03		
64 4.40 5.24E-05 0.	2.40E-05	0.	0.	0.	2.39E-04	5.12E-04	0.	0.	0.	7.34E-05	1.61E-08	2.03E-07	1.34E-06	9.02E-04		
65 4.30 4.46E-05 0.	4.49E-05	0.	0.	0.	2.05E-04	2.56E-04	0.	0.	0.	7.39E-05	1.72E-08	2.09E-07	1.37E-06	6.27E-04		
66 4.20 3.85E-05 0.	2.29E-04	0.	0.	0.	2.07E-04	2.25E-04	0.	0.	0.	7.45E-05	1.85E-08	2.14E-07	1.40E-06	7.75E-04		
67 4.10 3.33E-05 0.	5.18E-05	0.	0.	0.	1.81E-04	5.54E-05	0.	0.	0.	7.48E-05	1.99E-08	2.20E-07	1.43E-06	3.97E-04		
68 4.00 2.81E-05 0.	3.13E-04	0.	0.	0.	1.61E-04	4.13E-05	0.	0.	0.	7.51E-05	2.14E-08	2.26E-07	1.46E-06	6.19E-04		
69 3.90 2.13E-05 0.	1.43E-04	2.56E-06	0.	0.	1.29E-04	1.98E-05	0.	0.	0.	7.58E-05	2.31E-08	2.32E-07	1.49E-06	3.91E-04		
70 3.80 2.22E-05 0.	1.68E-04	2.85E-05	0.	0.	1.34E-04	0.	0.	0.	0.	7.65E-05	2.50E-08	2.38E-07	1.52E-06	4.28E-04		
71 3.70 1.7E-05 0.	2.77E-04	4.80E-06	9.40E-05	0.	9.40E-05	0.	0.	0.	0.	7.72E-05	2.71E-08	2.44E-07	1.55E-06	4.66E-04		
72 3.60 1.41E-05 0.	1.05E-04	2.97E-05	1.03E-04	0.	1.03E-04	0.	0.	0.	0.	7.79E-05	2.94E-08	2.50E-07	1.58E-06	3.21E-04		
73 3.50 1.19E-05 0.	1.96E-04	1.36E-04	6.70E-05	0.	6.70E-05	0.	0.	0.	0.	7.86E-05	3.20E-08	2.56E-07	1.61E-06	4.74E-04		
74 3.40 9.65E-06 0.	7.44E-05	5.28E-06	7.38E-05	0.	7.38E-05	0.	0.	0.	0.	7.93E-05	3.50E-08	2.62E-07	1.64E-06	2.00E-04		
75 3.30 7.22E-06 0.	9.09E-05	4.25E-05	4.97E-05	0.	4.97E-05	0.	0.	0.	0.	8.00E-05	3.82E-08	2.68E-07	1.67E-06	2.27E-04		
76 3.20 5.57E-06 0.	4.22E-05	1.58E-04	4.95E-05	0.	4.95E-05	0.	0.	0.	0.	8.07E-05	4.19E-08	2.74E-07	1.70E-06	2.92E-04		
77 3.10 4.80E-06 0.	3.40E-05	8.33E-06	4.11E-05	0.	4.11E-05	0.	0.	0.	0.	8.14E-05	4.62E-08	2.80E-07	1.73E-06	1.25E-04		
78 3.00 3.82E-06 0.	1.67E-05	4.39E-05	3.43E-05	0.	3.43E-05	0.	0.	0.	0.	8.21E-05	5.10E-08	2.86E-07	1.76E-06	1.36E-04		
79 2.90 2.82E-06 0.	9.86E-06	3.62E-05	2.14E-05	0.	2.14E-05	0.	0.	0.	0.	8.28E-05	5.64E-08	2.92E-07	1.79E-06	1.07E-04		
80 2.80 2.68E-06 0.	4.37E-06	7.61E-06	1.15E-05	0.	1.15E-05	0.	0.	0.	0.	8.35E-05	6.27E-08	3.00E-07	1.82E-06	6.34E-05		
81 2.70 1.43E-06 0.	2.00E-06	2.16E-05	4.86E-06	0.	4.86E-06	0.	0.	0.	0.	8.42E-05	7.00E-08	3.08E-07	1.85E-06	2.72E-05		
82 2.60 5.33E-07 0.	1.02E-06	2.17E-06	1.70E-06	0.	1.70E-06	0.	0.	0.	0.	8.49E-05	7.85E-08	3.16E-07	1.88E-06	4.25E-05		
83 2.50 3.39E-08 0.	1.48E-07	1.18E-06	3.50E-07	0.	3.50E-07	0.	0.	0.	0.	8.56E-05	8.83E-08	3.24E-07	1.91E-06	3.87E-05		
84 2.40 0.	1.11E-05	0.	1.73E-06	3.33E-08	3.33E-08	0.	0.	0.	0.	8.63E-05	9.98E-08	3.32E-07	1.94E-06	4.99E-05		
85 2.30 0.	6.80E-05	0.	0.	0.	0.	0.	0.	0.	0.	8.70E-05	1.13E-07	3.40E-07	1.97E-06	1.05E-04		
86 2.20 0.	1.23E-04	0.	0.	0.	0.	0.	0.	0.	0.	8.77E-05	1.30E-07	3.48E-07	2.00E-06	1.60E-04		
87 2.10 0.	2.26E-04	0.	0.	0.	0.	0.	0.	0.	0.	8.84E-05	1.49E-07	3.56E-07	2.03E-06	2.62E-04		
88 2.00 0.	3.11E-04	0.	0.	0.	0.	0.	0.	0.	0.	8.91E-05	1.73E-07	3.64E-07	2.06E-06	3.46E-04		
89 1.90 0.	8.39E-04	0.	0.	0.	0.	0.	0.	0.	0.	8.98E-05	2.02E-07	3.72E-07	2.09E-06	8.73E-04		
90 1.80 0.	7.10E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.05E-05	2.38E-07	3.80E-07	2.12E-06	7.43E-04		
91 1.70 0.	8.44E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.12E-05	2.83E-07	3.88E-07	2.15E-06	8.75E-04		
92 1.60 0.	5.82E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.19E-05	3.40E-07	3.96E-07	2.18E-06	6.08E-04		
93 1.50 0.	7.24E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.26E-05	4.13E-07	4.04E-07	2.21E-06	7.36E-04		
94 1.40 0.	8.37E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.33E-05	5.09E-07	4.12E-07	2.24E-06	8.38E-04		
95 1.30 0.	5.69E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.40E-05	6.36E-07	4.20E-07	2.27E-06	5.70E-04		
96 1.20 0.	6.37E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.47E-05	8.11E-07	4.28E-07	2.30E-06	6.39E-04		
97 1.10 0.	4.55E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.54E-05	1.06E-06	4.36E-07	2.33E-06	4.57E-04		
98 1.00 0.	4.40E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.61E-05	1.41E-06	4.44E-07	2.36E-06	4.43E-04		
99 0.90 0.	3.38E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.68E-05	1.94E-06	4.52E-07	2.39E-06	3.42E-04		
100 0.80 0.	1.54E-04	0.	0.	0.	0.	0.	0.	0.	0.	9.75E-05	2.78E-06	4.60E-07	2.42E-06	1.61E-04		
101 0.70 0.	4.31E-05	0.	0.	0.	0.	0.	0.	0.	0.	9.82E-05	4.17E-06	4.68E-07	2.45E-06	5.05E-05		
102 0.60 0.	1.17E-06	0.	0.	0.	0.	0.	0.	0.	0.	9.89E-05	6.67E-06	4.76E-07	2.48E-06	1.73E-05		

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				700°	DENSITY (GM/CC)				1.293E-05 (10.0E-C3 NORMAL)			
PHOTON ENERGY BANDS E.V.	O2 S-K CONT.	N2 R-H I.O. 1	NO BETA	NO GAMMA	NO	2	PHOTO-DET (IONS)	FREE-FREE	N P.E.	O P.E.	TOTAL AIR	
1 10.70 0.	0.	7.97E-03	0.	0.	0.	0.	1.29E-06	4.45E-11	1.50E-07	6.97E-08	7.97E-03	
2 10.60 0.	0.	6.48E-03	0.	0.	0.	0.	1.29E-06	4.58E-11	1.51E-07	6.98E-08	6.48E-03	
3 10.50 0.	0.	6.11E-03	0.	0.	0.	0.	1.29E-06	4.71E-11	1.51E-07	6.99E-08	6.11E-03	
4 10.40 0.	0.	5.24E-03	0.	0.	0.	0.	1.29E-06	4.85E-11	1.52E-07	7.00E-08	5.25E-03	
5 10.30 0.	0.	4.08E-03	0.	0.	0.	0.	1.29E-06	4.99E-11	1.52E-07	7.01E-08	4.08E-03	
6 10.20 0.	0.	3.91E-03	0.	0.	0.	0.	1.30E-06	5.14E-11	1.53E-07	7.01E-08	3.91E-03	
7 10.10 0.	0.	3.42E-03	0.	0.	0.	0.	1.30E-06	5.29E-11	1.53E-07	7.02E-08	3.42E-03	
8 10.00 0.	0.	2.57E-03	0.	0.	0.	0.	1.30E-06	5.62E-11	1.54E-07	7.04E-08	2.57E-03	
9 9.90 0.	0.	2.57E-03	0.	0.	0.	0.	1.30E-06	5.80E-11	1.54E-07	7.05E-08	2.57E-03	
10 9.80 0.	0.	2.16E-03	0.	0.	0.	0.	1.31E-06	5.98E-11	1.55E-07	7.06E-08	2.16E-03	
11 9.70 0.	0.	1.61E-03	0.	0.	0.	0.	1.31E-06	6.17E-11	1.55E-07	7.07E-08	1.62E-03	
12 9.60 0.	0.	1.72E-03	0.	0.	0.	0.	1.31E-06	6.37E-11	1.55E-07	7.08E-08	1.73E-03	
13 9.50 0.	1.41E-05	1.26E-03	0.	0.	0.	0.	1.32E-06	6.57E-11	1.56E-07	7.09E-08	1.28E-03	
14 9.40 0.	1.58E-05	1.07E-03	0.	0.	0.	0.	1.32E-06	6.79E-11	1.56E-07	7.10E-08	1.09E-03	
15 9.30 0.	1.76E-05	1.06E-03	0.	0.	0.	0.	1.32E-06	6.79E-11	1.56E-07	7.10E-08	1.09E-03	
16 9.20 0.	1.93E-05	7.21E-04	0.	0.	0.	0.	1.33E-06	7.01E-11	1.56E-07	7.11E-08	7.41E-04	
17 9.10 0.	2.34E-05	7.44E-04	0.	0.	0.	0.	1.33E-06	7.25E-11	1.56E-07	7.12E-08	7.69E-04	
18 9.00 0.	2.80E-05	5.89E-04	0.	0.	0.	0.	1.33E-06	7.49E-11	1.56E-07	7.13E-08	6.18E-04	
19 8.90 0.	3.27E-05	4.85E-04	0.	0.	0.	0.	1.34E-06	7.75E-11	1.56E-07	7.14E-08	5.20E-04	
20 8.80 0.	3.39E-05	4.52E-04	0.	0.	0.	0.	1.34E-06	8.02E-11	1.56E-07	7.15E-08	4.88E-04	
21 8.70 0.	3.26E-05	3.32E-04	0.	0.	0.	0.	1.35E-06	8.30E-11	1.56E-07	7.15E-08	3.66E-04	
22 8.60 0.	3.13E-05	3.34E-04	0.	0.	0.	0.	1.35E-06	8.59E-11	1.56E-07	7.16E-08	3.66E-04	
23 8.50 0.	3.03E-05	2.47E-04	0.	0.	0.	0.	1.36E-06	8.90E-11	1.56E-07	7.17E-08	2.79E-04	
24 8.40 0.	2.94E-05	2.34E-04	0.	0.	0.	0.	1.37E-06	9.22E-11	1.56E-07	7.18E-08	2.65E-04	
25 8.30 0.	2.83E-05	1.70E-04	0.	0.	0.	0.	1.37E-06	9.56E-11	1.56E-07	7.22E-08	2.00E-04	
26 8.20 0.	2.73E-05	1.63E-04	0.	0.	0.	0.	1.38E-06	9.92E-11	1.56E-07	7.31E-08	1.92E-04	
27 8.10 0.	2.63E-05	1.22E-04	0.	0.	0.	0.	1.39E-06	1.03E-10	1.56E-07	7.40E-08	1.49E-04	
28 8.00 0.	2.54E-05	1.15E-04	0.	0.	0.	0.	1.39E-06	1.07E-10	1.56E-07	7.49E-08	1.42E-04	
29 7.90 0.	2.42E-05	8.61E-05	0.	0.	0.	0.	1.40E-06	1.11E-10	1.56E-07	7.58E-08	1.12E-04	
30 7.80 0.	2.31E-05	8.32E-05	0.	0.	0.	0.	1.41E-06	1.15E-10	1.56E-07	7.68E-08	1.08E-04	
31 7.70 0.	2.18E-05	6.41E-05	0.	0.	0.	0.	1.42E-06	1.20E-10	1.56E-07	7.77E-08	8.74E-05	
32 7.60 0.	2.04E-05	5.54E-05	0.	7.31E-09	0.	0.	1.42E-06	1.25E-10	1.56E-07	7.86E-08	7.74E-05	
33 7.50 0.	1.91E-05	4.54E-05	0.	5.73E-08	0.	0.	1.43E-06	1.30E-10	1.56E-07	7.95E-08	6.61E-05	
34 7.40 0.	1.79E-05	3.70E-05	0.	1.94E-07	0.	0.	1.44E-06	1.35E-10	1.56E-07	8.04E-08	5.66E-05	
35 7.30 0.	1.69E-05	3.14E-05	0.	1.18E-06	0.	0.	1.45E-06	1.41E-10	1.56E-07	8.13E-08	5.11E-05	
36 7.20 0.	1.57E-05	2.53E-05	0.	3.60E-06	0.	0.	1.45E-06	1.47E-10	1.56E-07	8.23E-08	4.62E-05	
37 7.10 0.	1.45E-05	2.20E-05	0.	6.88E-06	0.	0.	1.47E-06	1.53E-10	1.56E-07	8.32E-08	4.49E-05	
38 7.00 2.52E-08	0.	1.80E-05	0.	2.66E-05	0.	0.	1.48E-06	1.60E-10	1.56E-07	8.41E-08	4.62E-05	
39 6.90 4.61E-08	0.	1.48E-05	0.	2.09E-05	0.	0.	1.49E-06	1.67E-10	1.56E-07	8.50E-08	3.73E-05	
40 6.80 3.64E-08	0.	1.26E-05	0.	4.81E-05	0.	0.	1.50E-06	1.74E-10	1.56E-07	8.59E-08	6.24E-05	
41 6.70 2.49E-08	0.	9.82E-06	0.	7.56E-05	0.	0.	1.51E-06	1.82E-10	1.56E-07	8.69E-08	8.71E-05	
42 6.60 1.42E-08	0.	7.81E-06	0.	3.44E-05	0.	0.	1.53E-06	1.91E-10	1.56E-07	8.78E-08	4.39E-05	
43 6.50 7.53E-09	0.	5.36E-06	0.	7.03E-05	0.	0.	1.54E-06	2.00E-10	1.56E-07	8.88E-08	7.73E-05	
44 6.40 3.87E-09	0.	3.00E-06	7.00E-07	1.04E-04	0.	0.	1.55E-06	2.09E-10	1.56E-07	8.98E-08	1.09E-04	
45 6.30 2.02E-09	0.	1.48E-06	2.85E-06	4.06E-05	0.	0.	1.56E-06	2.19E-10	1.56E-07	9.10E-08	4.66E-05	
46 6.20 8.24E-10	0.	6.61E-07	3.58E-06	6.58E-05	0.	0.	1.57E-06	2.30E-10	1.56E-07	9.29E-08	7.18E-05	
47 6.10 3.36E-10	0.	2.55E-07	9.37E-06	1.27E-04	0.	0.	1.59E-06	2.42E-10	1.56E-07	9.48E-08	1.38E-04	
48 6.00 1.27E-10	0.	5.71E-08	7.20E-06	3.60E-05	0.	0.	1.60E-06	2.54E-10	1.56E-07	9.67E-08	4.50E-05	
49 5.90 2.91E-11	0.	4.02E-09	9.92E-06	4.21E-05	0.	0.	1.60E-06	2.67E-10	1.56E-07	9.86E-08	5.38E-05	
50 5.80 3.62E-12	0.	9.67E-11	1.29E-06	3.90E-05	0.	0.	1.57E-06	2.81E-10	1.56E-07	1.00E-07	5.37E-05	
51 5.70 2.64E-13	0.	0.	1.31E-05	3.64E-05	0.	0.	1.48E-06	2.96E-10	1.56E-07	1.02E-07	5.12E-05	







# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)			7000.	DENSITY (GM/CC)			1.293E-06 (10.0E-04 NORMAL)	FREE-FREE N			P.E.			TOTAL AIR		
PHOTON U2 S-K	U2 S-K	U2 B-M	NO BETA	NO GAMMA	NO 2	Q- PHOTO-DET (IONS)	FREE-FREE N	P.E.	Q	P.E.	O	P.E.	TOTAL AIR			
ENERGY BANDS	CONT.	NO. 1														
E.V.																
1 10.70 0.	0.	1.62E-04	0.	0.	0.	3.45E-08	3.16E-12	2.14E-08	7.00E-09	1.62E-04	7.00E-09	1.62E-04				
2 10.60 0.	0.	1.32E-04	0.	0.	0.	3.45E-08	3.25E-12	2.15E-08	7.01E-09	1.32E-04	7.01E-09	1.32E-04				
3 10.50 0.	0.	1.24E-04	0.	0.	0.	3.46E-08	3.35E-12	2.16E-08	7.02E-09	1.24E-04	7.02E-09	1.24E-04				
4 10.40 0.	0.	1.07E-04	0.	0.	0.	3.46E-08	3.44E-12	2.17E-08	7.03E-09	1.07E-04	7.03E-09	1.07E-04				
5 10.30 0.	0.	8.29E-05	0.	0.	0.	3.47E-08	3.55E-12	2.17E-08	7.04E-09	8.30E-05	7.04E-09	8.30E-05				
6 10.20 0.	0.	7.95E-05	0.	0.	0.	3.47E-08	3.65E-12	2.18E-08	7.05E-09	7.96E-05	7.05E-09	7.96E-05				
7 10.10 0.	0.	6.95E-05	0.	0.	0.	3.48E-08	3.76E-12	2.18E-08	7.06E-09	6.96E-05	7.06E-09	6.96E-05				
8 10.00 0.	0.	5.24E-05	0.	0.	0.	3.48E-08	3.88E-12	2.19E-08	7.07E-09	5.24E-05	7.07E-09	5.24E-05				
9 9.90 0.	0.	5.22E-05	0.	0.	0.	3.49E-08	3.99E-12	2.20E-08	7.08E-09	5.23E-05	7.08E-09	5.23E-05				
10 9.80 0.	0.	4.39E-05	0.	0.	0.	3.49E-08	4.12E-12	2.20E-08	7.09E-09	4.40E-05	7.09E-09	4.40E-05				
11 9.70 0.	0.	3.28E-05	0.	0.	0.	3.50E-08	4.25E-12	2.21E-08	7.09E-09	3.29E-05	7.09E-09	3.29E-05				
12 9.60 0.	0.	3.51E-05	0.	0.	0.	3.51E-08	4.38E-12	2.21E-08	7.10E-09	3.51E-05	7.10E-09	3.51E-05				
13 9.50 0.	1.42E-07	2.56E-05	0.	0.	0.	3.51E-08	4.52E-12	2.22E-08	7.11E-09	2.58E-05	7.11E-09	2.58E-05				
14 9.40 0.	1.60E-07	2.18E-05	0.	0.	0.	3.52E-08	4.67E-12	2.22E-08	7.12E-09	2.20E-05	7.12E-09	2.20E-05				
15 9.30 0.	1.77E-07	2.16E-05	0.	0.	0.	3.54E-08	4.82E-12	2.22E-08	7.13E-09	2.18E-05	7.13E-09	2.18E-05				
16 9.20 0.	1.94E-07	1.47E-05	0.	0.	0.	3.55E-08	4.98E-12	2.22E-08	7.14E-09	1.49E-05	7.14E-09	1.49E-05				
17 9.10 0.	2.36E-07	1.51E-05	0.	0.	0.	3.56E-08	5.15E-12	2.22E-08	7.15E-09	1.54E-05	7.15E-09	1.54E-05				
18 9.00 0.	2.83E-07	1.20E-05	0.	0.	0.	3.58E-08	5.32E-12	2.22E-08	7.16E-09	1.23E-05	7.16E-09	1.23E-05				
19 8.90 0.	3.29E-07	9.87E-06	0.	0.	0.	3.59E-08	5.50E-12	2.22E-08	7.17E-09	1.03E-05	7.17E-09	1.03E-05				
20 8.80 0.	3.42E-07	9.20E-06	0.	0.	0.	3.60E-08	5.70E-12	2.22E-08	7.18E-09	9.59E-06	7.18E-09	9.59E-06				
21 8.70 0.	3.29E-07	6.75E-06	0.	0.	0.	3.61E-08	5.90E-12	2.22E-08	7.19E-09	7.13E-06	7.19E-09	7.13E-06				
22 8.60 0.	3.15E-07	6.79E-06	0.	0.	0.	3.63E-08	6.10E-12	2.22E-08	7.20E-09	7.15E-06	7.20E-09	7.15E-06				
23 8.50 0.	3.05E-07	5.03E-06	0.	0.	0.	3.64E-08	6.32E-12	2.22E-08	7.21E-09	5.38E-06	7.21E-09	5.38E-06				
24 8.40 0.	2.97E-07	4.77E-06	0.	0.	0.	3.66E-08	6.55E-12	2.22E-08	7.22E-09	5.11E-06	7.22E-09	5.11E-06				
25 8.30 0.	2.86E-07	3.46E-06	0.	0.	0.	3.68E-08	6.79E-12	2.22E-08	7.23E-09	3.79E-06	7.23E-09	3.79E-06				
26 8.20 0.	2.75E-07	3.32E-06	0.	0.	0.	3.70E-08	7.05E-12	2.22E-08	7.24E-09	3.64E-06	7.24E-09	3.64E-06				
27 8.10 0.	2.66E-07	2.47E-06	0.	0.	0.	3.72E-08	7.31E-12	2.22E-08	7.25E-09	2.79E-06	7.25E-09	2.79E-06				
28 8.00 0.	2.56E-07	2.34E-06	0.	0.	0.	3.74E-08	7.59E-12	2.22E-08	7.26E-09	2.64E-06	7.26E-09	2.64E-06				
29 7.90 0.	2.44E-07	1.75E-06	0.	0.	0.	3.75E-08	7.89E-12	2.22E-08	7.27E-09	2.05E-06	7.27E-09	2.05E-06				
30 7.80 0.	2.32E-07	1.69E-06	0.	0.	0.	3.77E-08	8.19E-12	2.22E-08	7.28E-09	1.98E-06	7.28E-09	1.98E-06				
31 7.70 0.	2.20E-07	1.30E-06	0.	0.	0.	3.79E-08	8.52E-12	2.22E-08	7.29E-09	1.57E-06	7.29E-09	1.57E-06				
32 7.60 0.	2.06E-07	1.13E-06	0.	0.	0.	3.81E-08	8.86E-12	2.22E-08	7.30E-09	1.38E-06	7.30E-09	1.38E-06				
33 7.50 0.	1.92E-07	9.24E-07	0.	0.	0.	3.83E-08	9.22E-12	2.22E-08	7.31E-09	1.17E-06	7.31E-09	1.17E-06				
34 7.40 0.	1.81E-07	7.51E-07	0.	0.	0.	3.85E-08	9.60E-12	2.22E-08	7.32E-09	9.87E-07	7.32E-09	9.87E-07				
35 7.30 0.	1.71E-07	6.39E-07	0.	0.	0.	3.87E-08	1.00E-11	2.22E-08	7.33E-09	8.79E-07	7.33E-09	8.79E-07				
36 7.20 0.	1.58E-07	5.15E-07	0.	0.	0.	3.89E-08	1.04E-11	2.22E-08	7.34E-09	7.78E-07	7.34E-09	7.78E-07				
37 7.10 0.	1.46E-07	4.47E-07	0.	0.	0.	3.93E-08	1.09E-11	2.22E-08	7.35E-09	7.44E-07	7.35E-09	7.44E-07				
38 7.00 0.	0.	3.65E-07	0.	0.	0.	3.96E-08	1.13E-11	2.22E-08	7.36E-09	8.00E-07	7.36E-09	8.00E-07				
39 6.90 0.	0.	3.01E-07	0.	0.	0.	3.99E-08	1.18E-11	2.22E-08	7.37E-09	6.54E-07	7.37E-09	6.54E-07				
40 6.80 0.	0.	2.57E-07	0.	0.	0.	4.02E-08	1.24E-11	2.22E-08	7.38E-09	6.00E-07	7.38E-09	6.00E-07				
41 6.70 0.	0.	2.00E-07	0.	0.	0.	4.05E-08	1.29E-11	2.22E-08	7.39E-09	5.34E-07	7.39E-09	5.34E-07				
42 6.60 0.	0.	1.59E-07	0.	0.	0.	4.09E-08	1.35E-11	2.22E-08	7.40E-09	4.66E-07	7.40E-09	4.66E-07				
43 6.50 0.	0.	1.09E-07	0.	0.	0.	4.12E-08	1.42E-11	2.22E-08	7.41E-09	3.92E-07	7.41E-09	3.92E-07				
44 6.40 0.	0.	6.10E-08	0.	0.	0.	4.15E-08	1.49E-11	2.22E-08	7.42E-09	3.17E-07	7.42E-09	3.17E-07				
45 6.30 0.	0.	3.01E-08	0.	0.	0.	4.18E-08	1.56E-11	2.22E-08	7.43E-09	2.41E-07	7.43E-09	2.41E-07				
46 6.20 0.	0.	1.34E-08	0.	0.	0.	4.21E-08	1.63E-11	2.22E-08	7.44E-09	1.66E-07	7.44E-09	1.66E-07				
47 6.10 0.	0.	5.19E-09	0.	0.	0.	4.25E-08	1.72E-11	2.22E-08	7.45E-09	1.01E-07	7.45E-09	1.01E-07				
48 6.00 0.	0.	1.16E-09	0.	0.	0.	4.28E-08	1.80E-11	2.22E-08	7.46E-09	6.77E-07	7.46E-09	6.77E-07				
49 5.90 0.	0.	8.17E-11	0.	0.	0.	4.28E-08	1.90E-11	2.22E-08	7.47E-09	9.90E-07	7.47E-09	9.90E-07				
50 5.80 0.	0.	1.97E-12	0.	0.	0.	4.21E-08	2.00E-11	2.22E-08	7.48E-09	1.01E-07	7.48E-09	1.01E-07				
51 5.70 0.	0.	0.	0.	0.	0.	3.96E-08	2.11E-11	2.22E-08	7.49E-09	1.03E-07	7.49E-09	1.03E-07				

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R		TEMPERATURE (DEGREES K)		7000.		DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)		FREE-FAEE		O		P.E.		TOTAL AIR	
ENERGY BANDS	1ST PGS.	2ND PGS.	N2	N2+	BETA	NO	GAMMA	VIB-ROT	NO	PHOTO-DET (IONS)	N	P.E.	O	P.E.	
52	5.60	1.16E-16	0.	0.	1.27E-07	9.84E-07	0.	0.	0.	3.68E-08	2.22E-11	5.16E-09	1.05E-08	1.16E-06	
53	5.50	0.	0.	0.	1.60E-07	1.02E-06	0.	0.	0.	3.70E-08	2.34E-11	5.19E-09	1.07E-08	1.23E-06	
54	5.40	0.	0.	0.	1.28E-07	5.42E-07	0.	0.	0.	3.72E-08	2.48E-11	5.23E-09	1.09E-08	1.31E-06	
55	5.30	0.	0.	0.	1.32E-07	9.40E-07	0.	0.	0.	3.74E-08	2.62E-11	5.27E-09	1.11E-08	1.43E-06	
56	5.20	0.	0.	0.	1.33E-07	4.47E-07	0.	0.	0.	3.77E-08	2.78E-11	5.32E-09	1.14E-08	1.63E-06	
57	5.10	0.	0.	0.	1.25E-07	6.35E-07	0.	0.	0.	3.80E-08	2.94E-11	5.44E-09	1.16E-08	1.85E-06	
58	5.00	1.21E-09	0.	0.	1.09E-07	4.76E-07	0.	0.	0.	3.83E-08	3.12E-11	5.50E-09	1.19E-08	2.14E-06	
59	4.90	2.59E-09	0.	0.	1.13E-07	4.40E-07	0.	0.	0.	3.86E-08	3.32E-11	5.72E-09	1.22E-08	2.44E-06	
60	4.80	4.23E-09	0.	0.	1.03E-07	3.33E-07	0.	0.	0.	3.89E-08	3.53E-11	5.84E-09	1.25E-08	2.74E-06	
61	4.70	4.96E-09	0.	0.	9.98E-08	3.24E-07	0.	0.	0.	3.93E-08	3.74E-11	5.97E-09	1.28E-08	3.04E-06	
62	4.60	6.07E-09	0.	0.	8.19E-08	2.09E-07	0.	0.	0.	3.96E-08	4.01E-11	6.12E-09	1.31E-08	3.34E-06	
63	4.50	5.76E-09	0.	0.	7.77E-08	1.67E-07	0.	0.	0.	3.99E-08	4.29E-11	6.29E-09	1.34E-08	3.64E-06	
64	4.40	5.51E-09	0.	0.	6.69E-08	8.35E-08	0.	0.	0.	4.02E-08	4.59E-11	6.46E-09	1.37E-08	3.94E-06	
65	4.30	4.69E-09	0.	0.	6.73E-08	7.34E-08	0.	0.	0.	4.05E-08	4.91E-11	6.63E-09	1.39E-08	4.24E-06	
66	4.20	4.05E-09	0.	0.	5.89E-08	1.61E-08	0.	0.	0.	4.09E-08	5.27E-11	6.81E-09	1.42E-08	4.54E-06	
67	4.10	3.50E-09	0.	0.	5.26E-08	1.34E-08	0.	0.	0.	4.10E-08	5.67E-11	7.00E-09	1.45E-08	4.84E-06	
68	4.00	2.95E-09	0.	0.	4.20E-08	6.46E-09	0.	0.	0.	4.12E-08	6.11E-11	7.19E-09	1.48E-08	5.14E-06	
69	3.90	2.24E-09	0.	0.	3.38E-07	4.37E-08	0.	0.	0.	4.10E-08	6.59E-11	7.38E-09	1.51E-08	5.44E-06	
70	3.80	2.34E-09	0.	0.	2.79E-07	3.06E-08	0.	0.	0.	4.09E-08	7.13E-11	7.57E-09	1.54E-08	5.74E-06	
71	3.70	1.78E-09	0.	0.	1.06E-07	5.61E-07	0.	0.	0.	4.02E-08	7.73E-11	7.76E-09	1.57E-08	6.04E-06	
72	3.60	1.48E-09	0.	0.	1.98E-07	2.18E-08	0.	0.	0.	4.05E-08	8.39E-11	7.95E-09	1.60E-08	6.34E-06	
73	3.50	1.26E-09	0.	0.	1.69E-07	1.62E-08	0.	0.	0.	4.09E-08	9.13E-11	8.14E-09	1.63E-08	6.64E-06	
74	3.40	1.01E-09	0.	0.	1.44E-07	1.58E-09	0.	0.	0.	4.12E-08	9.97E-11	8.33E-09	1.66E-08	6.94E-06	
75	3.30	7.59E-10	0.	0.	9.16E-08	8.02E-07	0.	0.	0.	4.10E-08	1.09E-10	8.52E-09	1.69E-08	7.24E-06	
76	3.20	5.86E-10	0.	0.	4.26E-08	2.98E-06	0.	0.	0.	4.12E-08	1.20E-10	8.71E-09	1.72E-08	7.54E-06	
77	3.10	5.05E-10	0.	0.	3.43E-08	1.57E-07	0.	0.	0.	4.09E-08	1.32E-10	8.90E-09	1.75E-08	7.84E-06	
78	3.00	4.01E-10	0.	0.	1.69E-08	8.27E-07	0.	0.	0.	4.02E-08	1.45E-10	9.09E-09	1.78E-08	8.14E-06	
79	2.90	2.96E-10	0.	0.	9.94E-09	6.83E-07	0.	0.	0.	4.05E-08	1.61E-10	9.28E-09	1.81E-08	8.44E-06	
80	2.80	2.82E-10	0.	0.	4.40E-09	1.44E-07	0.	0.	0.	4.09E-08	1.79E-10	9.47E-09	1.84E-08	8.74E-06	
81	2.70	1.51E-10	0.	0.	2.01E-09	4.08E-07	0.	0.	0.	4.12E-08	2.00E-10	9.66E-09	1.87E-08	9.04E-06	
82	2.60	5.61E-11	0.	0.	1.02E-09	4.10E-08	0.	0.	0.	4.10E-08	2.24E-10	9.85E-09	1.90E-08	9.34E-06	
83	2.50	3.56E-12	0.	0.	1.50E-10	2.22E-08	0.	0.	0.	4.02E-08	2.52E-10	1.00E-08	1.93E-08	9.64E-06	
84	2.40	0.	0.	0.	1.12E-08	0.	0.	0.	0.	4.05E-08	2.85E-10	1.01E-08	1.96E-08	9.94E-06	
85	2.30	0.	0.	0.	6.86E-08	0.	0.	0.	0.	4.09E-08	3.24E-10	1.02E-08	1.99E-08	1.02E-05	
86	2.20	0.	0.	0.	1.24E-07	0.	0.	0.	0.	4.12E-08	3.70E-10	1.03E-08	2.02E-08	1.05E-05	
87	2.10	0.	0.	0.	2.28E-07	0.	0.	0.	0.	4.10E-08	4.26E-10	1.04E-08	2.05E-08	1.08E-05	
88	2.00	0.	0.	0.	3.13E-07	0.	0.	0.	0.	4.02E-08	4.93E-10	1.05E-08	2.08E-08	1.11E-05	
89	1.90	0.	0.	0.	8.46E-07	0.	0.	0.	0.	4.05E-08	5.76E-10	1.06E-08	2.11E-08	1.14E-05	
90	1.80	0.	0.	0.	7.16E-07	0.	0.	0.	0.	4.09E-08	6.78E-10	1.07E-08	2.14E-08	1.17E-05	
91	1.70	0.	0.	0.	8.51E-07	0.	0.	0.	0.	4.12E-08	7.95E-10	1.08E-08	2.17E-08	1.20E-05	
92	1.60	0.	0.	0.	5.87E-07	0.	0.	0.	0.	4.10E-08	9.38E-10	1.09E-08	2.20E-08	1.23E-05	
93	1.50	0.	0.	0.	7.30E-07	0.	0.	0.	0.	4.02E-08	1.10E-09	1.10E-08	2.23E-08	1.26E-05	
94	1.40	0.	0.	0.	8.44E-07	0.	0.	0.	0.	4.05E-08	1.27E-09	1.11E-08	2.26E-08	1.29E-05	
95	1.30	0.	0.	0.	5.74E-07	0.	0.	0.	0.	4.09E-08	1.45E-09	1.12E-08	2.29E-08	1.32E-05	
96	1.20	0.	0.	0.	6.43E-07	0.	0.	0.	0.	4.12E-08	1.61E-09	1.13E-08	2.32E-08	1.35E-05	
97	1.10	0.	0.	0.	4.59E-07	0.	0.	0.	0.	4.10E-08	1.81E-09	1.14E-08	2.35E-08	1.38E-05	
98	1.00	0.	0.	0.	4.44E-07	0.	0.	0.	0.	4.02E-08	2.02E-09	1.15E-08	2.38E-08	1.41E-05	
99	0.90	0.	0.	0.	3.41E-07	0.	0.	0.	0.	4.05E-08	2.29E-09	1.16E-08	2.41E-08	1.44E-05	
100	0.80	0.	0.	0.	1.55E-07	0.	0.	0.	0.	4.09E-08	2.60E-09	1.17E-08	2.44E-08	1.47E-05	
101	0.70	0.	0.	0.	4.35E-08	0.	0.	0.	0.	4.12E-08	2.95E-09	1.18E-08	2.47E-08	1.50E-05	
102	0.60	0.	0.	0.	1.18E-09	0.	0.	0.	0.	4.10E-08	3.34E-09	1.19E-08	2.50E-08	1.53E-05	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	O2 S-R RANOS	O2 S-R CONT.	N2 B-H NO. 1	TEMPERATURE (DEGREES K)		NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N	P.E.	O P.E.	TOTAL AIR
				7000.	DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)								
1	10.70 0.	0.	1.83E-06	0.	0.	0.	0.	0.	1.06E-09	2.99E-13	2.27E-09	6.98E-10	1.84E-06
2	10.60 0.	0.	1.49E-06	0.	0.	0.	0.	0.	1.06E-09	3.08E-13	2.29E-09	6.99E-10	1.49E-06
3	10.50 0.	0.	1.40E-06	0.	0.	0.	0.	0.	1.06E-09	3.17E-13	2.30E-09	7.00E-10	1.41E-06
4	10.40 0.	0.	1.21E-06	0.	0.	0.	0.	0.	1.06E-09	3.26E-13	2.31E-09	7.01E-10	1.21E-06
5	10.30 0.	0.	9.37E-07	0.	0.	0.	0.	0.	1.06E-09	3.36E-13	2.31E-09	7.02E-10	9.41E-07
6	10.20 0.	0.	8.99E-07	0.	0.	0.	0.	0.	1.06E-09	3.46E-13	2.32E-09	7.03E-10	9.03E-07
7	10.10 0.	0.	7.86E-07	0.	0.	0.	0.	0.	1.07E-09	3.56E-13	2.32E-09	7.04E-10	7.90E-07
8	10.00 0.	0.	5.92E-07	0.	0.	0.	0.	0.	1.07E-09	3.67E-13	2.33E-09	7.05E-10	5.96E-07
9	9.90 0.	0.	5.91E-07	0.	0.	0.	0.	0.	1.07E-09	3.78E-13	2.33E-09	7.06E-10	5.95E-07
10	9.80 0.	0.	4.97E-07	0.	0.	0.	0.	0.	1.07E-09	3.90E-13	2.34E-09	7.07E-10	5.01E-07
11	9.70 0.	0.	3.71E-07	0.	0.	0.	0.	0.	1.07E-09	4.02E-13	2.35E-09	7.08E-10	3.75E-07
12	9.60 0.	0.	3.97E-07	0.	0.	0.	0.	0.	1.08E-09	4.15E-13	2.35E-09	7.09E-10	4.01E-07
13	9.50 0.	1.42E-09	2.90E-07	0.	0.	0.	0.	0.	1.08E-09	4.28E-13	2.36E-09	7.09E-10	2.96E-07
14	9.40 0.	1.60E-09	2.47E-07	0.	0.	0.	0.	0.	1.08E-09	4.42E-13	2.36E-09	7.10E-10	2.51E-07
15	9.30 0.	1.77E-09	2.45E-07	0.	0.	0.	0.	0.	1.09E-09	4.57E-13	2.37E-10	7.11E-10	2.49E-07
16	9.20 0.	1.94E-09	1.66E-07	0.	0.	0.	0.	0.	1.09E-09	4.72E-13	2.37E-10	7.12E-10	1.70E-07
17	9.10 0.	2.36E-09	1.71E-07	0.	0.	0.	0.	0.	1.09E-09	4.88E-13	2.37E-10	7.13E-10	1.76E-07
18	9.00 0.	2.83E-09	1.35E-07	0.	0.	0.	0.	0.	1.10E-09	5.04E-13	2.37E-10	7.14E-10	1.41E-07
19	8.90 0.	3.29E-09	1.12E-07	0.	0.	0.	0.	0.	1.10E-09	5.21E-13	2.37E-10	7.15E-10	1.17E-07
20	8.80 0.	3.42E-09	1.04E-07	0.	0.	0.	0.	0.	1.10E-09	5.39E-13	2.37E-10	7.16E-10	1.10E-07
21	8.70 0.	3.29E-09	7.63E-08	0.	0.	0.	0.	0.	1.11E-09	5.58E-13	2.37E-10	7.17E-10	8.21E-08
22	8.60 0.	3.15E-09	7.67E-08	0.	0.	0.	0.	0.	1.11E-09	5.78E-13	2.37E-10	7.18E-10	8.23E-08
23	8.50 0.	3.05E-09	5.68E-08	0.	0.	0.	0.	0.	1.12E-09	5.99E-13	2.37E-10	7.19E-10	6.23E-08
24	8.40 0.	2.97E-09	5.39E-08	0.	0.	0.	0.	0.	1.12E-09	6.21E-13	2.37E-10	7.20E-10	5.93E-08
25	8.30 0.	2.86E-09	3.91E-08	0.	0.	0.	0.	0.	1.13E-09	6.44E-13	2.37E-10	7.23E-10	4.44E-08
26	8.20 0.	2.75E-09	3.75E-08	0.	0.	0.	0.	0.	1.13E-09	6.67E-13	2.37E-10	7.33E-10	4.27E-08
27	8.10 0.	2.66E-09	2.80E-08	0.	0.	0.	0.	0.	1.14E-09	6.93E-13	2.37E-10	7.42E-10	3.31E-08
28	8.00 0.	2.56E-09	2.64E-08	0.	0.	0.	0.	0.	1.15E-09	7.19E-13	2.37E-10	7.51E-10	3.15E-08
29	7.90 0.	2.44E-09	1.98E-08	0.	0.	0.	0.	0.	1.15E-09	7.47E-13	2.37E-10	7.60E-10	2.47E-08
30	7.80 0.	2.32E-09	1.91E-08	0.	0.	0.	0.	0.	1.16E-09	7.76E-13	2.37E-10	7.69E-10	2.40E-08
31	7.70 0.	2.20E-09	1.47E-08	0.	0.	0.	0.	0.	1.16E-09	8.07E-13	2.37E-10	7.78E-10	1.94E-08
32	7.60 0.	2.06E-09	1.27E-08	0.	0.	0.	0.	0.	1.17E-09	8.39E-13	2.37E-10	7.88E-10	1.73E-08
33	7.50 0.	1.92E-09	1.04E-08	0.	0.	0.	0.	0.	1.18E-09	8.73E-13	2.37E-10	7.97E-10	1.49E-08
34	7.40 0.	1.81E-09	8.50E-09	0.	0.	0.	0.	0.	1.18E-09	9.09E-13	2.37E-10	8.06E-10	1.29E-08
35	7.30 0.	1.71E-09	7.23E-09	0.	0.	0.	0.	0.	1.19E-09	9.47E-13	2.37E-10	8.15E-10	1.17E-08
36	7.20 0.	1.58E-09	5.83E-09	0.	0.	0.	0.	0.	1.19E-09	9.88E-13	2.37E-10	8.24E-10	1.05E-08
37	7.10 0.	1.46E-09	5.05E-09	0.	0.	0.	0.	0.	1.20E-09	1.03E-12	2.37E-10	8.34E-10	1.01E-08
38	7.00 2.53E-12	0.	4.13E-09	0.	0.	0.	0.	0.	1.21E-09	1.07E-12	2.37E-10	8.43E-10	1.08E-08
39	6.90 4.62E-12	0.	3.40E-09	0.	0.	0.	0.	0.	1.22E-09	1.12E-12	2.37E-10	8.52E-10	9.20E-09
40	6.80 3.71E-12	0.	2.90E-09	0.	0.	0.	0.	0.	1.23E-09	1.17E-12	2.37E-10	8.61E-10	1.29E-08
41	6.70 2.50E-12	0.	2.26E-09	0.	0.	0.	0.	0.	1.24E-09	1.23E-12	2.37E-10	8.71E-10	1.64E-08
42	6.60 1.42E-12	0.	1.80E-09	0.	0.	0.	0.	0.	1.25E-09	1.28E-12	2.37E-10	8.80E-10	9.70E-09
43	6.50 7.56E-13	0.	1.23E-09	0.	0.	0.	0.	0.	1.26E-09	1.34E-12	2.37E-10	8.90E-10	1.46E-08
44	6.40 3.89E-13	0.	6.90E-10	0.	0.	0.	0.	0.	1.27E-09	1.41E-12	2.37E-10	9.00E-10	1.92E-08
45	6.30 2.03E-13	0.	3.40E-10	0.	0.	0.	0.	0.	1.28E-09	1.48E-12	2.37E-10	9.12E-10	9.68E-09
46	6.20 8.27E-14	0.	1.52E-10	0.	0.	0.	0.	0.	1.29E-09	1.55E-12	2.37E-10	9.31E-10	1.35E-08
47	6.10 3.37E-14	0.	5.87E-11	0.	0.	0.	0.	0.	1.30E-09	1.63E-12	2.37E-10	9.50E-10	2.35E-08
48	6.00 1.26E-14	0.	1.31E-11	0.	0.	0.	0.	0.	1.31E-09	1.71E-12	2.37E-10	9.69E-10	9.39E-09
49	5.90 2.92E-15	0.	9.24E-13	0.	0.	0.	0.	0.	1.31E-09	1.80E-12	2.37E-10	9.88E-10	1.07E-08
50	5.80 3.64E-16	0.	2.22E-14	0.	0.	0.	0.	0.	1.29E-09	1.89E-12	2.37E-10	1.01E-09	1.07E-08
51	5.70 2.65E-17	0.	0.	0.	0.	0.	0.	0.	1.21E-09	1.99E-12	2.37E-10	1.03E-09	1.03E-08

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R		TEMPERATURE (DEGREES K)		7000.		DENSITY (GM/CC) 1.293E-07		110.0E-05 NORMAL)		FREE-FREE		N		O		TOTAL AIR	
ENERGY BANDS	1ST POS.	N2	2ND POS.	1ST NEG.	N2+	BETA	NO	GAMMA	VIB-ROT	NO	NO	2	PHOTO-DET (IONS)	F.E.	P.E.		
52	5.60	1.15E-18	0.	0.	0.	1.35E-09	1.04E-08	0.	0.	1.13E-09	2.10E-12	5.48E-10	1.04E-09	1.04E-09	1.45E-08		
53	5.50	0.	0.	0.	0.	1.70E-09	1.08E-08	0.	0.	1.14E-09	2.22E-12	5.52E-10	1.06E-09	1.06E-09	1.53E-08		
54	5.40	0.	0.	0.	0.	1.35E-09	5.75E-09	0.	0.	1.14E-09	2.35E-12	5.56E-10	1.08E-09	1.08E-09	9.89E-09		
55	5.30	0.	0.	0.	0.	1.40E-09	9.97E-09	0.	0.	1.15E-09	2.48E-12	5.60E-10	1.11E-09	1.11E-09	1.42E-08		
56	5.20	0.	0.	0.	0.	1.41E-09	4.75E-09	0.	0.	1.16E-09	2.63E-12	5.65E-10	1.13E-09	1.13E-09	9.01E-09		
57	5.10	0.	0.	0.	0.	1.32E-09	6.73E-09	0.	0.	1.17E-09	2.79E-12	5.79E-10	1.16E-09	1.16E-09	1.10E-08		
58	5.00	1.21E-11	0.	0.	0.	1.11E-09	5.64E-09	0.	0.	1.18E-09	2.96E-12	5.93E-10	1.19E-09	1.19E-09	9.72E-09		
59	4.90	2.57E-11	0.	0.	0.	1.15E-09	5.05E-09	0.	0.	1.19E-09	3.14E-12	6.08E-10	1.22E-09	1.22E-09	9.24E-09		
60	4.80	4.21E-11	0.	0.	0.	1.20E-09	4.66E-09	0.	0.	1.01E-16	1.19E-09	3.34E-12	6.21E-10	1.25E-09	8.97E-09		
61	4.70	4.95E-11	0.	0.	0.	1.09E-09	3.53E-09	0.	0.	1.01E-16	1.20E-09	3.56E-12	6.34E-10	1.28E-09	7.79E-09		
62	4.60	6.03E-11	0.	0.	0.	1.06E-09	3.44E-09	0.	0.	1.01E-16	1.21E-09	3.80E-12	6.50E-10	1.31E-09	7.74E-09		
63	4.50	5.75E-11	0.	0.	0.	8.69E-10	2.22E-09	0.	0.	1.01E-16	1.22E-09	4.06E-12	6.69E-10	1.34E-09	6.45E-09		
64	4.40	5.48E-11	0.	0.	0.	8.24E-10	1.77E-09	0.	0.	1.01E-16	1.23E-09	4.34E-12	6.87E-10	1.37E-09	6.22E-09		
65	4.30	4.66E-11	0.	0.	0.	7.09E-10	8.86E-10	0.	0.	1.01E-16	1.24E-09	4.65E-12	7.05E-10	1.39E-09	5.50E-09		
66	4.20	4.03E-11	0.	0.	0.	7.14E-10	7.78E-10	0.	0.	1.01E-16	1.25E-09	5.00E-12	7.24E-10	1.39E-09	5.22E-09		
67	4.10	3.48E-11	0.	0.	0.	6.24E-10	1.91E-10	0.	0.	1.01E-16	1.26E-09	5.37E-12	7.46E-10	1.39E-09	5.26E-09		
68	4.00	2.95E-11	0.	0.	0.	5.57E-10	1.43E-10	0.	0.	1.01E-16	1.26E-09	5.78E-12	7.67E-10	1.39E-09	5.26E-09		
69	3.90	2.22E-11	0.	0.	0.	1.63E-09	1.77E-09	0.	0.	1.01E-16	1.26E-09	6.24E-12	7.87E-10	1.39E-09	5.26E-09		
70	3.80	2.32E-11	0.	0.	0.	1.91E-09	1.98E-09	0.	0.	1.01E-16	1.25E-09	6.75E-12	8.11E-10	1.03E-10	2.38E-08		
71	3.70	1.77E-11	0.	0.	0.	3.15E-09	3.32E-09	0.	0.	1.01E-16	1.23E-09	7.32E-12	8.41E-10	1.03E-10	2.38E-08		
72	3.60	1.47E-11	0.	0.	0.	1.19E-09	2.06E-08	0.	0.	1.01E-16	1.16E-09	7.95E-12	8.69E-10	1.03E-10	2.38E-08		
73	3.50	1.25E-11	0.	0.	0.	2.23E-09	9.45E-08	0.	0.	1.01E-16	1.06E-09	8.65E-12	8.97E-10	1.03E-10	2.38E-08		
74	3.40	1.01E-11	0.	0.	0.	8.48E-10	3.66E-09	0.	0.	1.01E-16	6.10E-10	9.44E-12	9.24E-10	1.03E-10	2.38E-08		
75	3.30	7.54E-12	0.	0.	0.	1.04E-09	2.95E-08	0.	0.	1.01E-16	6.11E-10	1.03E-11	9.44E-10	1.03E-10	2.38E-08		
76	3.20	5.83E-12	0.	0.	0.	4.81E-10	1.09E-07	0.	0.	1.01E-16	6.12E-10	1.13E-11	9.69E-10	1.03E-10	2.38E-08		
77	3.10	5.02E-12	0.	0.	0.	3.88E-10	5.78E-09	0.	0.	1.01E-16	6.14E-10	1.25E-11	9.97E-10	1.03E-10	2.38E-08		
78	3.00	3.99E-12	0.	0.	0.	1.91E-10	3.04E-08	0.	0.	1.01E-16	6.15E-10	1.38E-11	1.03E-10	1.03E-10	2.38E-08		
79	2.90	2.94E-12	0.	0.	0.	1.12E-10	2.51E-08	0.	0.	1.01E-16	6.16E-10	1.52E-11	1.03E-10	1.03E-10	2.38E-08		
80	2.80	2.81E-12	0.	0.	0.	4.98E-11	5.27E-09	0.	0.	1.01E-16	6.17E-10	1.69E-11	1.03E-10	1.03E-10	2.38E-08		
81	2.70	1.50E-12	0.	0.	0.	2.28E-11	1.50E-08	0.	0.	1.01E-16	6.17E-10	1.89E-11	1.03E-10	1.03E-10	2.38E-08		
82	2.60	5.58E-13	0.	0.	0.	1.16E-11	1.51E-09	0.	0.	1.01E-16	6.17E-10	2.12E-11	1.03E-10	1.03E-10	2.38E-08		
83	2.50	3.54E-14	0.	0.	0.	1.69E-12	8.15E-10	0.	0.	1.01E-16	6.17E-10	2.38E-11	1.03E-10	1.03E-10	2.38E-08		
84	2.40	0.	1.26E-10	0.	0.	1.20E-09	1.15E-13	0.	0.	1.01E-16	6.17E-10	2.70E-11	1.03E-10	1.03E-10	2.38E-08		
85	2.30	0.	7.76E-10	0.	0.	0.	0.	0.	0.	1.01E-16	6.12E-10	3.06E-11	1.03E-10	1.03E-10	2.38E-08		
86	2.20	0.	1.40E-09	0.	0.	0.	0.	0.	0.	1.01E-16	6.10E-10	3.50E-11	1.03E-10	1.03E-10	2.38E-08		
87	2.10	0.	2.58E-09	0.	0.	0.	0.	0.	0.	1.01E-16	6.07E-10	4.03E-11	1.03E-10	1.03E-10	2.38E-08		
88	2.00	0.	3.54E-09	0.	0.	0.	0.	0.	0.	1.01E-16	5.88E-10	4.67E-11	1.03E-10	1.03E-10	2.38E-08		
89	1.90	0.	9.57E-09	0.	0.	0.	0.	0.	0.	1.01E-16	5.65E-10	5.46E-11	1.03E-10	1.03E-10	2.38E-08		
90	1.80	0.	9.10E-09	0.	0.	0.	0.	0.	0.	1.01E-16	5.41E-10	6.43E-11	1.03E-10	1.03E-10	2.38E-08		
91	1.70	0.	9.63E-09	0.	0.	0.	0.	0.	0.	1.01E-16	5.09E-10	7.64E-11	1.03E-10	1.03E-10	2.38E-08		
92	1.60	0.	6.63E-09	0.	0.	0.	0.	0.	0.	1.01E-16	4.31E-10	9.18E-11	1.03E-10	1.03E-10	2.38E-08		
93	1.50	0.	8.25E-09	0.	0.	0.	0.	0.	0.	1.01E-16	4.31E-10	9.18E-11	1.03E-10	1.03E-10	2.38E-08		
94	1.40	0.	9.54E-09	0.	0.	0.	0.	0.	0.	1.01E-16	1.96E-10	1.11E-10	1.03E-10	1.03E-10	2.38E-08		
95	1.30	0.	6.49E-09	0.	0.	0.	0.	0.	0.	1.01E-16	0.	1.37E-10	1.03E-10	1.03E-10	2.38E-08		
96	1.20	0.	7.27E-09	0.	0.	0.	0.	0.	0.	1.01E-16	0.	1.72E-10	1.03E-10	1.03E-10	2.38E-08		
97	1.10	0.	5.19E-09	0.	0.	0.	0.	0.	0.	1.01E-16	0.	2.19E-10	1.03E-10	1.03E-10	2.38E-08		
98	1.00	0.	5.02E-09	0.	0.	0.	0.	0.	0.	1.01E-16	0.	2.85E-10	1.03E-10	1.03E-10	2.38E-08		
99	0.90	0.	3.86E-09	0.	0.	0.	0.	0.	0.	1.01E-16	0.	3.81E-10	1.03E-10	1.03E-10	2.38E-08		
100	0.80	0.	1.75E-09	0.	0.	0.	0.	0.	0.	1.01E-16	0.	5.24E-10	1.03E-10	1.03E-10	2.38E-08		
101	0.70	0.	4.92E-10	0.	0.	0.	0.	0.	0.	1.01E-16	0.	7.50E-10	1.03E-10	1.03E-10	2.38E-08		
102	0.60	0.	1.33E-11	0.	0.	0.	0.	0.	0.	1.01E-16	0.	1.13E-09	1.03E-10	1.03E-10	2.38E-08		



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				700C.				DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)				TOTAL AIR			
PHOTON 02 S-R		N2		N2+		NO		NO		NO		U		P.E.	
ENERGY BANDS		1ST PUS.		2ND PUS.		1ST NEG.		BETA		GAMMA		VIB-ROT		P.E.	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				7000.	DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)					
PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 B-H NO. 1	NO GAMMA	NU BETA	NO 2	O- PHOTO-DET (IONS)	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.		0.	1.67E-10	0.	0.	0.	9.70E-13	2.80E-15	2.17E-11	6.62E-12 1.96E-10
2 10.60 0.		0.	1.35E-10	0.	0.	0.	9.71E-13	2.80E-15	2.18E-11	6.62E-12 1.65E-10
3 10.50 0.		0.	1.28E-10	0.	0.	0.	9.72E-13	2.97E-15	2.19E-11	6.63E-12 1.57E-10
4 10.40 0.		0.	1.10E-10	0.	0.	0.	9.74E-13	3.05E-15	2.20E-11	6.64E-12 1.39E-10
5 10.30 0.		0.	8.52E-11	0.	0.	0.	9.75E-13	3.14E-15	2.20E-11	6.65E-12 1.15E-10
6 10.20 0.		0.	8.18E-11	0.	0.	0.	9.76E-13	3.24E-15	2.21E-11	6.66E-12 1.12E-10
7 10.10 0.		0.	7.15E-11	0.	0.	0.	9.78E-13	3.34E-15	2.21E-11	6.67E-12 1.01E-10
8 10.00 0.		0.	5.38E-11	0.	0.	0.	9.79E-13	3.44E-15	2.22E-11	6.68E-12 8.37E-11
9 9.90 0.		0.	5.37E-11	0.	0.	0.	9.81E-13	3.54E-15	2.23E-11	6.69E-12 8.36E-11
10 9.80 0.		0.	4.51E-11	0.	0.	0.	9.83E-13	3.65E-15	2.23E-11	6.70E-12 7.51E-11
11 9.70 0.		0.	3.38E-11	0.	0.	0.	9.84E-13	3.77E-15	2.24E-11	6.70E-12 6.38E-11
12 9.60 0.		0.	3.61E-11	0.	0.	0.	9.86E-13	3.89E-15	2.24E-11	6.71E-12 6.62E-11
13 9.50 0.		1.27E-13	2.64E-11	0.	0.	0.	9.88E-13	4.01E-15	2.25E-11	6.72E-12 5.67E-11
14 9.40 0.		1.42E-13	2.24E-11	0.	0.	0.	9.91E-13	4.14E-15	5.86E-12	6.73E-12 3.62E-11
15 9.30 0.		1.58E-13	2.22E-11	0.	0.	0.	9.95E-13	4.28E-15	5.84E-12	6.74E-12 3.60E-11
16 9.20 0.		1.74E-13	1.51E-11	0.	0.	0.	9.99E-13	4.42E-15	5.81E-12	6.75E-12 2.88E-11
17 9.10 0.		2.11E-13	1.56E-11	0.	0.	0.	1.00E-12	4.57E-15	5.79E-12	6.76E-12 2.93E-11
18 9.00 0.		2.52E-13	1.23E-11	0.	0.	0.	1.01E-12	4.72E-15	5.77E-12	6.77E-12 2.61E-11
19 8.90 0.		2.94E-13	1.02E-11	0.	0.	0.	1.01E-12	4.88E-15	5.74E-12	6.77E-12 2.40E-11
20 8.80 0.		3.05E-13	9.46E-12	0.	0.	0.	1.01E-12	5.05E-15	5.72E-12	6.78E-12 2.33E-11
21 8.70 0.		2.94E-13	6.94E-12	0.	0.	0.	1.02E-12	5.23E-15	5.70E-12	6.79E-12 2.07E-11
22 8.60 0.		2.82E-13	6.98E-12	0.	0.	0.	1.02E-12	5.41E-15	5.68E-12	6.80E-12 2.08E-11
23 8.50 0.		2.73E-13	5.17E-12	0.	0.	0.	1.02E-12	5.61E-15	5.65E-12	6.81E-12 1.89E-11
24 8.40 0.		2.65E-13	4.90E-12	0.	0.	0.	1.03E-12	5.81E-15	5.63E-12	6.82E-12 1.87E-11
25 8.30 0.		2.55E-13	3.56E-12	0.	0.	0.	1.03E-12	6.03E-15	5.61E-12	6.85E-12 1.73E-11
26 8.20 0.		2.46E-13	3.41E-12	0.	0.	0.	1.04E-12	6.25E-15	5.58E-12	6.94E-12 1.72E-11
27 8.10 0.		2.37E-13	2.54E-12	0.	0.	0.	1.04E-12	6.48E-15	5.55E-12	7.03E-12 1.64E-11
28 8.00 0.		2.28E-13	2.40E-12	0.	0.	0.	1.05E-12	6.73E-15	5.51E-12	7.11E-12 1.63E-11
29 7.90 0.		2.18E-13	1.80E-12	0.	0.	0.	1.06E-12	6.99E-15	5.48E-12	7.20E-12 1.58E-11
30 7.80 0.		2.08E-13	1.74E-12	0.	0.	0.	1.06E-12	7.27E-15	5.45E-12	7.29E-12 1.58E-11
31 7.70 0.		1.96E-13	1.34E-12	0.	0.	0.	1.07E-12	7.55E-15	5.43E-12	7.37E-12 1.54E-11
32 7.60 0.		1.84E-13	1.16E-12	0.	0.	1.00E-16	1.07E-12	7.86E-15	5.40E-12	7.46E-12 1.53E-11
33 7.50 0.		1.72E-13	9.50E-13	0.	0.	7.86E-16	1.08E-12	8.18E-15	5.37E-12	7.55E-12 1.51E-11
34 7.40 0.		1.62E-13	7.73E-13	0.	0.	2.66E-15	1.08E-12	8.51E-15	5.34E-12	7.64E-12 1.50E-11
35 7.30 0.		1.53E-13	6.57E-13	0.	0.	1.62E-14	1.09E-12	8.87E-15	5.31E-12	7.72E-12 1.50E-11
36 7.20 0.		1.41E-13	5.30E-13	0.	0.	4.95E-14	1.10E-12	9.25E-15	5.29E-12	7.81E-12 1.49E-11
37 7.10 0.		1.30E-13	4.59E-13	0.	0.	9.44E-14	1.10E-12	9.64E-15	5.26E-12	7.90E-12 1.50E-11
38 7.00 2.27E-16 0.		0.	3.76E-13	0.	0.	3.65E-13	1.11E-12	1.01E-14	5.23E-12	7.98E-12 1.51E-11
39 6.90 4.14E-16 0.		0.	3.09E-13	0.	0.	2.87E-13	1.12E-12	1.05E-14	5.20E-12	8.07E-12 1.50E-11
40 6.80 3.33E-16 0.		0.	2.64E-13	0.	0.	6.60E-13	1.13E-12	1.10E-14	5.17E-12	8.16E-12 1.54E-11
41 6.70 2.24E-16 0.		0.	2.05E-13	0.	0.	1.04E-12	1.14E-12	1.15E-14	5.15E-12	8.25E-12 1.58E-11
42 6.60 1.24E-16 0.		0.	1.63E-13	0.	0.	4.72E-13	1.15E-12	1.20E-14	5.13E-12	8.34E-12 1.53E-11
43 6.50 6.79E-17 0.		0.	1.12E-13	0.	0.	9.65E-13	1.16E-12	1.26E-14	5.12E-12	8.43E-12 1.58E-11
44 6.40 3.49E-17 0.		0.	6.27E-14	0.	0.	9.61E-15	1.17E-12	1.32E-14	5.11E-12	8.52E-12 1.63E-11
45 6.30 1.82E-17 0.		0.	3.09E-14	0.	0.	3.91E-14	1.18E-12	1.38E-14	5.10E-12	8.64E-12 1.56E-11
46 6.20 7.43E-18 0.		0.	1.38E-14	0.	0.	4.91E-14	1.19E-12	1.45E-14	5.09E-12	8.82E-12 1.61E-11
47 6.10 3.03E-18 0.		0.	5.34E-15	0.	0.	1.29E-13	1.19E-12	1.52E-14	5.11E-12	9.00E-12 1.72E-11
48 6.00 1.15E-18 0.		0.	1.19E-15	0.	0.	9.88E-14	1.20E-12	1.60E-14	5.13E-12	9.18E-12 1.61E-11
49 5.90 2.62E-19 0.		0.	8.40E-17	0.	0.	1.36E-13	1.20E-12	1.68E-14	5.16E-12	9.36E-12 1.65E-11
50 5.80 3.26E-20 0.		0.	2.02E-18	0.	0.	1.77E-13	1.19E-12	1.77E-14	5.18E-12	9.54E-12 1.66E-11
51 5.70 2.38E-21 0.		0.	0.	0.	0.	1.80E-13	1.11E-12	1.87E-14	5.20E-12	9.72E-12 1.67E-11

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON Q2 S-R		TEMPERATURE (DEGREES K)		7000.		DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
ENERGY BANDS	1ST POS.	N2	N2+ NEG.	BETA	NO	GAMMA	VIB-ROT	NO	NO	2	PHOTO-DET (IONS)	P.E.	O	P.E.	
52 5.50 1.03E-22 0.	0.	0.	0.	1.22E-13	9.43E-13	0.	0.	0.	1.04E-12	1.97E-14	5.23E-12	9.90E-12	1.72E-11		
53 5.50 0. 0.	0.	0.	0.	1.54E-13	9.77E-13	0.	0.	0.	1.04E-12	2.08E-14	5.26E-12	1.01E-11	1.75E-11		
54 5.40 0. 0.	0.	0.	0.	1.22E-13	5.20E-13	0.	0.	0.	1.05E-12	2.20E-14	5.30E-12	1.03E-11	1.73E-11		
55 5.30 0. 0.	0.	0.	0.	1.26E-13	9.01E-13	0.	0.	0.	1.05E-12	2.32E-14	5.34E-12	1.05E-11	1.79E-11		
56 5.20 0. 0.	0.	0.	0.	1.27E-13	4.29E-13	0.	0.	0.	1.06E-12	2.46E-14	5.39E-12	1.07E-11	1.78E-11		
57 5.10 0. 0.	0.	0.	0.	1.19E-13	6.08E-13	0.	0.	0.	1.07E-12	2.61E-14	5.52E-12	1.10E-11	1.84E-11		
58 5.00 1.00E-15 0.	0.	0.	0.	1.00E-13	5.10E-13	0.	0.	0.	1.08E-12	2.77E-14	5.66E-12	1.13E-11	1.87E-11		
59 4.90 2.31E-15 0.	0.	0.	0.	1.04E-13	4.56E-13	0.	0.	0.	1.09E-12	2.94E-14	5.79E-12	1.15E-11	1.90E-11		
60 4.80 3.76E-15 0.	0.	0.	0.	1.08E-13	4.21E-13	0.	0.	0.	1.10E-12	3.13E-14	5.92E-12	1.18E-11	1.94E-11		
61 4.70 4.45E-15 0.	0.	0.	0.	9.85E-14	3.19E-13	0.	0.	0.	1.10E-12	3.34E-14	6.05E-12	1.21E-11	1.97E-11		
62 4.60 5.42E-15 0.	0.	0.	0.	9.57E-14	3.11E-13	0.	0.	0.	1.11E-12	3.56E-14	6.20E-12	1.24E-11	2.02E-11		
63 4.50 5.14E-15 0.	0.	0.	0.	7.85E-14	2.01E-13	0.	0.	0.	1.12E-12	3.80E-14	6.38E-12	1.27E-11	2.05E-11		
64 4.40 4.92E-15 0.	0.	0.	0.	7.44E-14	1.60E-13	0.	0.	0.	1.13E-12	4.07E-14	6.55E-12	1.30E-11	2.10E-11		
65 4.30 4.18E-15 0.	0.	0.	0.	6.41E-14	8.00E-14	0.	0.	0.	1.14E-12	4.36E-14	6.73E-12	1.38E-11	8.94E-12		
66 4.20 3.61E-15 0.	0.	0.	0.	6.45E-14	7.03E-14	0.	0.	0.	1.15E-12	4.68E-14	6.90E-12	1.47E-11	9.34E-12		
67 4.10 3.13E-15 0.	0.	0.	0.	5.64E-14	1.73E-14	0.	0.	0.	1.15E-12	5.03E-14	7.15E-12	1.59E-11	9.91E-12		
68 4.00 2.63E-15 0.	0.	0.	0.	5.04E-14	1.29E-14	0.	0.	0.	1.16E-12	5.42E-14	7.40E-12	1.71E-11	1.06E-10		
69 3.90 2.09E-15 0.	0.	0.	0.	4.02E-14	6.19E-15	0.	0.	0.	1.15E-12	5.84E-14	7.65E-12	1.83E-11	1.15E-10		
70 3.80 1.59E-15 0.	0.	0.	0.	1.74E-13	1.86E-11	0.	0.	0.	1.15E-12	6.32E-14	7.92E-12	1.95E-11	1.25E-10		
71 3.70 1.32E-15 0.	0.	0.	0.	2.87E-13	3.12E-12	0.	0.	0.	1.13E-12	6.85E-14	8.28E-12	2.08E-11	1.38E-10		
72 3.60 1.32E-15 0.	0.	0.	0.	1.09E-13	1.94E-11	0.	0.	0.	1.06E-12	7.44E-14	8.68E-12	2.22E-11	1.52E-10		
73 3.50 1.12E-15 0.	0.	0.	0.	2.03E-13	8.89E-11	0.	0.	0.	9.70E-13	8.10E-14	8.98E-12	2.37E-11	1.67E-10		
74 3.40 9.05E-16 0.	0.	0.	0.	7.71E-14	3.44E-12	0.	0.	0.	8.67E-13	8.84E-14	9.35E-12	2.52E-11	1.82E-10		
75 3.30 6.77E-16 0.	0.	0.	0.	9.42E-14	2.77E-11	0.	0.	0.	8.67E-13	9.67E-14	9.76E-12	2.67E-11	1.97E-10		
76 3.20 5.25E-16 0.	0.	0.	0.	4.38E-14	1.03E-10	0.	0.	0.	8.67E-13	1.06E-13	1.01E-11	2.82E-11	2.12E-10		
77 3.10 4.51E-16 0.	0.	0.	0.	3.53E-14	5.43E-12	0.	0.	0.	8.67E-13	1.17E-13	1.11E-11	2.97E-11	2.27E-10		
78 3.00 3.58E-16 0.	0.	0.	0.	1.74E-14	2.86E-11	0.	0.	0.	8.67E-13	1.29E-13	1.25E-11	3.12E-11	2.42E-10		
79 2.90 2.64E-16 0.	0.	0.	0.	1.02E-14	2.36E-11	0.	0.	0.	8.67E-13	1.43E-13	1.40E-11	3.27E-11	2.57E-10		
80 2.80 2.52E-16 0.	0.	0.	0.	4.53E-15	4.96E-12	0.	0.	0.	8.67E-13	1.59E-13	1.59E-11	3.42E-11	2.72E-10		
81 2.70 1.35E-16 0.	0.	0.	0.	2.07E-15	1.41E-11	0.	0.	0.	8.67E-13	1.77E-13	1.77E-11	3.57E-11	2.87E-10		
82 2.60 5.01E-17 0.	0.	0.	0.	1.05E-15	1.41E-12	0.	0.	0.	8.67E-13	1.98E-13	1.98E-11	3.72E-11	3.02E-10		
83 2.50 3.10E-18 0.	0.	0.	0.	1.54E-16	7.66E-13	0.	0.	0.	8.67E-13	2.23E-13	2.23E-11	3.87E-11	3.17E-10		
84 2.40 0. 1.15E-14 0.	0.	0.	0.	1.12E-12	1.04E-17	0.	0.	0.	8.67E-13	2.52E-13	2.52E-11	4.02E-11	3.32E-10		
85 2.30 0. 7.06E-14 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	2.87E-13	2.87E-11	4.17E-11	3.47E-10		
86 2.20 0. 1.28E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	3.28E-13	3.28E-11	4.32E-11	3.62E-10		
87 2.10 0. 2.34E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	3.77E-13	3.77E-11	4.47E-11	3.77E-10		
88 2.00 0. 3.22E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	4.37E-13	4.37E-11	4.62E-11	3.92E-10		
89 1.90 0. 8.70E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	5.11E-13	5.11E-11	4.77E-11	4.07E-10		
90 1.80 0. 7.36E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	6.02E-13	6.02E-11	4.92E-11	4.22E-10		
91 1.70 0. 8.75E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	7.15E-13	7.15E-11	5.07E-11	4.37E-10		
92 1.60 0. 6.03E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	8.59E-13	8.59E-11	5.22E-11	4.52E-10		
93 1.50 0. 7.50E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	1.04E-12	1.04E-11	5.37E-11	4.67E-10		
94 1.40 0. 8.68E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	1.29E-12	1.29E-11	5.52E-11	4.82E-10		
95 1.30 0. 5.90E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	1.61E-12	1.61E-11	5.67E-11	4.97E-10		
96 1.20 0. 6.61E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	2.05E-12	2.05E-11	5.82E-11	5.12E-10		
97 1.10 0. 4.72E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	2.67E-12	2.67E-11	5.97E-11	5.27E-10		
98 1.00 0. 4.57E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	3.57E-12	3.57E-11	6.12E-11	5.42E-10		
99 0.90 0. 3.51E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	4.91E-12	4.91E-11	6.27E-11	5.57E-10		
100 0.80 0. 1.59E-13 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	7.03E-12	7.03E-11	6.42E-11	5.72E-10		
101 0.70 0. 4.47E-14 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	1.05E-11	1.05E-10	6.57E-11	5.87E-10		
102 0.60 0. 1.21E-15 0.	0.	0.	0.	0.	0.	0.	0.	0.	8.67E-13	1.69E-11	1.69E-10	6.72E-11	6.02E-10		





# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS		TEMPERATURE (DEGREES K)		8000.		DENSITY (GM/CC)		1.293E-02 (1.0E 01 NORMAL)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR		
		N2		N2+ 1ST NEG.		NO		NO		NO		NO		NO		NO		
		1ST POS.		2ND POS.		BETA		GAMMA		VIB-ROT		2		PHOTO-DET (IONS)		O		
52	5.60	2.57E-09	0.	0.	0.	2.53E-01	1.85E 00	0.	0.	0.	0.	0.	0.	2.19E-01	3.68E-05	5.00E-05	5.98E-04	2.32E 00
53	5.50	0.	0.	0.	0.	3.14E-01	1.85E 00	0.	0.	0.	0.	0.	0.	2.21E-01	3.88E-05	5.05E-05	6.08E-04	2.38E 00
54	5.40	0.	0.	0.	0.	2.57E-01	1.09E 00	0.	0.	0.	0.	0.	0.	2.22E-01	4.10E-05	5.10E-05	6.19E-04	1.57E 00
55	5.30	0.	0.	0.	0.	2.65E-01	1.75E 00	0.	0.	0.	0.	0.	0.	2.23E-01	4.34E-05	5.16E-05	6.31E-04	2.24E 00
56	5.20	0.	0.	0.	0.	2.70E-01	9.12E-01	0.	0.	0.	0.	0.	0.	2.25E-01	4.59E-05	5.22E-05	6.47E-04	1.41E 00
57	5.10	0.	0.	0.	0.	2.58E-01	1.27E 00	0.	0.	0.	0.	0.	0.	2.26E-01	4.87E-05	5.35E-05	6.63E-04	1.76E 00
58	5.00	2.86E-02	0.	0.	0.	2.21E-01	1.08E 00	0.	0.	0.	0.	0.	0.	2.28E-01	5.17E-05	5.49E-05	6.78E-04	1.56E 00
59	4.90	6.29E-02	0.	0.	0.	2.33E-01	1.02E 00	0.	0.	0.	0.	0.	0.	2.30E-01	5.49E-05	5.63E-05	6.94E-04	1.55E 00
60	4.80	1.06E-01	0.	0.	0.	2.43E-01	9.36E-01	0.	0.	0.	0.	0.	0.	2.32E-01	5.84E-05	5.76E-05	7.10E-04	1.52E 00
61	4.70	1.26E-01	0.	0.	0.	2.25E-01	7.49E-01	0.	0.	0.	0.	0.	0.	2.34E-01	6.22E-05	5.89E-05	7.27E-04	1.34E 00
62	4.60	1.60E-01	0.	0.	0.	2.21E-01	7.14E-01	0.	0.	0.	0.	0.	0.	2.36E-01	6.64E-05	6.06E-05	7.45E-04	1.33E 00
63	4.50	1.55E-01	0.	0.	0.	1.86E-01	4.84E-01	0.	0.	0.	0.	0.	0.	2.38E-01	7.09E-05	6.25E-05	7.63E-04	1.07E 00
64	4.40	1.52E-01	0.	0.	0.	1.78E-01	3.71E-01	0.	0.	0.	0.	0.	0.	2.40E-01	7.59E-05	6.44E-05	7.80E-04	9.54E-01
65	4.30	1.32E-01	0.	0.	0.	1.57E-01	1.97E-01	0.	0.	0.	0.	0.	0.	2.42E-01	8.14E-05	6.63E-05	7.98E-04	7.54E-01
66	4.20	1.16E-01	0.	0.	0.	1.60E-01	1.65E-01	0.	0.	0.	0.	0.	0.	2.44E-01	8.74E-05	6.83E-05	8.16E-04	8.01E-01
67	4.10	1.02E-01	0.	0.	0.	1.43E-01	4.14E-02	0.	0.	0.	0.	0.	0.	2.45E-01	9.39E-05	7.02E-05	8.33E-04	5.62E-01
68	4.00	8.74E-02	0.	0.	0.	1.30E-01	3.13E-02	0.	0.	0.	0.	0.	0.	2.46E-01	1.01E-04	7.22E-05	8.17E-04	5.54E-01
69	3.90	6.79E-02	0.	0.	0.	1.07E-01	1.44E-02	0.	0.	0.	0.	0.	0.	2.45E-01	1.09E-04	5.21E-05	8.40E-04	5.06E-01
70	3.80	7.16E-02	0.	0.	0.	1.07E-01	1.44E-02	0.	0.	0.	0.	0.	0.	2.44E-01	1.18E-04	5.33E-05	8.65E-04	5.20E-01
71	3.70	5.65E-02	0.	0.	0.	1.35E-01	2.80E-04	0.	0.	0.	0.	0.	0.	2.40E-01	1.28E-04	4.12E-05	9.86E-04	5.14E-01
72	3.60	4.77E-02	0.	0.	0.	5.88E-02	1.81E-03	0.	0.	0.	0.	0.	0.	2.25E-01	1.39E-04	4.44E-05	1.13E-04	4.23E-01
73	3.50	4.12E-02	0.	0.	0.	1.01E-01	6.97E-03	0.	0.	0.	0.	0.	0.	2.06E-01	1.51E-04	3.99E-05	1.27E-04	4.16E-01
74	3.40	3.42E-02	0.	0.	0.	4.32E-02	3.61E-04	0.	0.	0.	0.	0.	0.	1.19E-01	1.65E-04	4.53E-05	1.43E-04	2.64E-01
75	3.30	2.60E-02	0.	0.	0.	5.00E-02	2.47E-03	0.	0.	0.	0.	0.	0.	1.19E-01	1.81E-04	5.06E-05	1.59E-04	2.45E-01
76	3.20	2.06E-02	0.	0.	0.	2.54E-02	7.78E-03	0.	0.	0.	0.	0.	0.	1.19E-01	1.98E-04	5.60E-05	1.75E-04	2.21E-01
77	3.10	1.81E-02	0.	0.	0.	1.99E-02	5.65E-04	0.	0.	0.	0.	0.	0.	1.19E-01	2.18E-04	6.15E-05	1.91E-04	1.99E-01
78	3.00	1.48E-02	0.	0.	0.	1.04E-02	2.51E-03	0.	0.	0.	0.	0.	0.	1.20E-01	2.41E-04	6.70E-05	2.08E-04	1.83E-01
79	2.90	1.12E-02	0.	0.	0.	6.15E-03	1.87E-03	0.	0.	0.	0.	0.	0.	1.20E-01	2.67E-04	7.25E-05	2.24E-04	1.63E-01
80	2.80	1.09E-02	0.	0.	0.	2.81E-03	5.05E-04	0.	0.	0.	0.	0.	0.	1.20E-01	2.96E-04	7.84E-05	2.41E-04	1.48E-01
81	2.70	6.04E-03	0.	0.	0.	1.28E-03	1.24E-03	0.	0.	0.	0.	0.	0.	1.20E-01	3.31E-04	8.46E-05	2.59E-04	1.36E-01
82	2.60	2.36E-03	0.	0.	0.	6.56E-04	1.19E-04	0.	0.	0.	0.	0.	0.	1.20E-01	3.71E-04	9.12E-05	2.78E-04	1.27E-01
83	2.50	1.53E-04	0.	0.	0.	9.00E-05	7.57E-05	0.	0.	0.	0.	0.	0.	1.20E-01	4.17E-04	1.01E-04	3.11E-04	1.22E-01
84	2.40	0.	0.	0.	0.	9.87E-05	4.44E-04	0.	0.	0.	0.	0.	0.	1.20E-01	4.72E-04	1.15E-04	3.53E-04	1.28E-01
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.19E-01	5.36E-04	6.26E-05	1.19E-04	1.52E-01
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.18E-01	6.14E-04	7.39E-05	1.44E-04	1.83E-01
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.18E-01	7.07E-04	8.60E-05	1.68E-04	2.21E-01
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.14E-01	8.19E-04	9.81E-05	1.93E-04	2.67E-01
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.10E-01	9.57E-04	1.11E-04	2.18E-04	3.96E-01
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.05E-01	1.13E-03	1.29E-04	2.57E-04	4.50E-01
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.90E-02	1.34E-03	1.52E-04	3.05E-04	3.27E-01
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.38E-02	1.61E-03	1.74E-04	3.53E-04	3.27E-01
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.45E-04	1.95E-03	2.13E-04	4.18E-04	3.41E-01
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.45E-04	2.41E-03	2.54E-04	4.71E-04	3.34E-01
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.45E-04	3.02E-03	2.98E-04	5.95E-04	2.39E-01
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.45E-04	3.85E-03	2.54E-04	5.08E-04	2.55E-01
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.45E-04	5.01E-03	3.13E-04	6.31E-04	1.98E-01
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.45E-04	6.69E-03	3.75E-04	6.76E-04	1.89E-01
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.45E-04	9.22E-03	4.18E-04	7.94E-04	1.54E-01
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.45E-04	1.32E-02	4.79E-04	9.12E-04	8.33E-02
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.45E-04	1.98E-02	5.34E-04	1.02E-03	4.15E-02
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.45E-04	3.19E-02	5.94E-04	1.14E-03	4.15E-02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGR C) K		800C.		DENSITY (GM/CC) 1.2935-U3 ( 1.0E 00 NORMAL)		O- PHOTO-DET (IONS)		N P.E.		U P.E.		TOTAL AIR	
PHOTON U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R
ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS
E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.
1 10.76 U.	2 32E 01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 U.	1.93E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 U.	1.85E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 U.	1.62E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 U.	1.29E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 U.	1.25E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 U.	1.11E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 U.	8.65E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 U.	8.68E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 U.	7.47E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 U.	5.76E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 U.	6.16E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 U.	3.85E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 U.	4.46E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 U.	5.08E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 U.	5.69E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 U.	6.88E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 U.	8.17E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 U.	9.47E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 U.	9.84E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 U.	9.49E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 U.	9.14E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 U.	8.86E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 U.	8.66E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 U.	8.45E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 U.	8.19E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 U.	7.91E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 U.	7.62E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 U.	7.29E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 U.	6.96E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 U.	6.63E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 U.	6.30E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 U.	5.97E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 U.	5.63E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 U.	5.30E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 U.	4.95E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 U.	4.60E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 U.	4.27E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 U.	3.94E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 U.	3.61E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 U.	3.28E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 U.	2.95E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 U.	2.62E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 U.	2.29E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 U.	1.96E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 U.	1.63E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 U.	1.30E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 U.	9.67E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 U.	8.34E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 U.	7.01E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 U.	5.68E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON 02 S-R ENERGY BANDS		N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO	GAMMA	NO	VIB-ROT	NO	2	U- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	U P.E.	TOTAL AIR
52	5.60 3.54E-11	0.	0.	0.	8.54E-03	6.26E-02	0.	0.	0.	0.	0.	5.33E-03	1.41E-06	1.45E-05	6.99E-05	7.65E-02
53	5.50 0.	0.	0.	0.	1.06E-02	6.24E-02	0.	0.	0.	0.	0.	5.36E-03	1.49E-06	1.46E-05	7.11E-05	7.85E-02
54	5.40 0.	0.	0.	0.	8.68E-03	3.70E-02	0.	0.	0.	0.	0.	5.39E-03	1.58E-06	1.48E-05	7.23E-05	5.11E-02
55	5.30 0.	0.	0.	0.	8.95E-03	5.92E-02	0.	0.	0.	0.	0.	5.42E-03	1.67E-06	1.49E-05	7.38E-05	7.37E-02
56	5.20 0.	0.	0.	0.	9.13E-03	3.08E-02	0.	0.	0.	0.	0.	5.46E-03	1.76E-06	1.51E-05	7.56E-05	4.55E-02
57	5.10 0.	0.	0.	0.	8.71E-03	4.31E-02	0.	0.	0.	0.	0.	5.51E-03	1.87E-06	1.55E-05	7.74E-05	5.74E-02
58	5.00 3.93E-04	0.	0.	0.	7.46E-03	3.65E-02	0.	0.	0.	0.	0.	5.55E-03	1.98E-06	1.59E-05	7.93E-05	5.00E-02
59	4.90 8.54E-04	0.	0.	0.	7.87E-03	3.45E-02	0.	0.	0.	0.	0.	5.60E-03	2.11E-06	1.63E-05	8.11E-05	4.89E-02
60	4.80 1.44E-03	0.	0.	0.	8.20E-03	3.16E-02	0.	0.	0.	0.	0.	5.64E-03	2.24E-06	1.67E-05	8.29E-05	4.70E-02
61	4.70 1.75E-03	0.	0.	0.	7.62E-03	2.53E-02	0.	0.	0.	0.	0.	5.69E-03	2.39E-06	1.70E-05	8.50E-05	4.05E-02
62	4.60 2.18E-03	0.	0.	0.	7.48E-03	2.41E-02	0.	0.	0.	0.	0.	5.74E-03	2.55E-06	1.75E-05	8.70E-05	3.96E-02
63	4.50 2.12E-03	0.	0.	0.	6.28E-03	1.63E-02	0.	0.	0.	0.	0.	5.78E-03	2.72E-06	1.81E-05	8.91E-05	3.09E-02
64	4.40 2.07E-03	0.	0.	0.	6.03E-03	1.25E-02	0.	0.	0.	0.	0.	5.83E-03	2.92E-06	1.86E-05	9.12E-05	2.76E-02
65	4.30 1.81E-03	0.	0.	0.	5.30E-03	6.66E-03	0.	0.	0.	0.	0.	5.88E-03	3.13E-06	1.92E-05	9.33E-05	2.18E-02
66	4.20 1.58E-03	0.	0.	0.	5.40E-03	5.59E-03	0.	0.	0.	0.	0.	5.92E-03	3.36E-06	1.97E-05	9.53E-05	2.82E-02
67	4.10 1.39E-03	0.	0.	0.	4.84E-03	1.40E-03	0.	0.	0.	0.	0.	5.95E-03	3.61E-06	2.03E-05	9.57E-05	1.62E-02
68	4.00 1.14E-03	0.	0.	0.	4.39E-03	1.06E-03	0.	0.	0.	0.	0.	5.97E-03	3.89E-06	2.09E-05	9.55E-06	2.59E-02
69	3.90 9.26E-04	0.	0.	0.	5.94E-03	6.58E-05	0.	0.	0.	0.	0.	5.95E-03	4.19E-06	1.50E-05	9.82E-06	1.70E-02
70	3.80 9.78E-04	0.	0.	0.	7.61E-03	5.96E-04	0.	0.	0.	0.	0.	5.92E-03	4.54E-06	1.16E-05	1.01E-05	1.89E-02
71	3.70 7.71E-04	0.	0.	0.	1.13E-02	1.13E-04	0.	0.	0.	0.	0.	5.83E-03	4.92E-06	1.19E-05	1.15E-05	2.08E-02
72	3.60 6.51E-04	0.	0.	0.	4.92E-03	7.30E-04	0.	0.	0.	0.	0.	5.46E-03	5.34E-06	1.02E-05	1.32E-05	1.48E-02
73	3.50 5.63E-04	0.	0.	0.	8.44E-03	2.81E-03	0.	0.	0.	0.	0.	5.00E-03	5.81E-06	1.15E-05	1.49E-05	1.89E-02
74	3.40 4.67E-04	0.	0.	0.	3.62E-03	1.45E-04	0.	0.	0.	0.	0.	5.95E-03	6.34E-06	1.31E-05	1.67E-05	9.41E-03
75	3.30 3.54E-04	0.	0.	0.	4.18E-03	9.93E-04	0.	0.	0.	0.	0.	5.94E-03	6.94E-06	1.46E-05	1.85E-05	1.00E-02
76	3.20 2.81E-04	0.	0.	0.	2.13E-03	3.13E-03	0.	0.	0.	0.	0.	5.89E-03	7.62E-06	1.62E-05	2.05E-05	1.01E-02
77	3.10 2.47E-04	0.	0.	0.	1.67E-03	2.27E-04	0.	0.	0.	0.	0.	5.90E-03	8.38E-06	1.78E-05	2.24E-05	6.45E-03
78	3.00 2.02E-04	0.	0.	0.	8.75E-04	1.01E-03	0.	0.	0.	0.	0.	5.91E-03	9.25E-06	1.94E-05	2.43E-05	6.21E-03
79	2.90 1.53E-04	0.	0.	0.	5.15E-04	7.54E-04	0.	0.	0.	0.	0.	5.91E-03	1.02E-05	2.10E-05	2.62E-05	5.15E-03
80	2.80 1.48E-04	0.	0.	0.	2.35E-04	2.03E-04	0.	0.	0.	0.	0.	5.91E-03	1.14E-05	2.27E-05	2.82E-05	4.00E-03
81	2.70 8.25E-05	0.	0.	0.	1.07E-04	4.97E-04	0.	0.	0.	0.	0.	5.91E-03	1.27E-05	2.45E-05	3.03E-05	3.86E-03
82	2.60 3.23E-05	0.	0.	0.	5.49E-05	4.77E-05	0.	0.	0.	0.	0.	5.91E-03	1.42E-05	2.64E-05	3.18E-05	3.20E-03
83	2.50 2.09E-06	0.	0.	0.	7.53E-06	3.04E-05	0.	0.	0.	0.	0.	5.91E-03	1.60E-05	2.93E-05	3.45E-06	3.03E-03
84	2.40 0.	0.	0.	0.	5.05E-04	0.	0.	0.	0.	0.	0.	5.91E-03	1.81E-05	3.19E-05	3.74E-05	3.51E-03
85	2.30 0.	0.	0.	0.	2.68E-03	0.	0.	0.	0.	0.	0.	5.91E-03	2.06E-05	3.49E-05	4.00E-05	5.63E-03
86	2.20 0.	0.	0.	0.	5.23E-03	0.	0.	0.	0.	0.	0.	5.91E-03	2.36E-05	3.74E-05	4.25E-05	8.17E-03
87	2.10 0.	0.	0.	0.	8.46E-03	0.	0.	0.	0.	0.	0.	5.91E-03	2.71E-05	4.09E-05	4.50E-05	1.14E-02
88	2.00 0.	0.	0.	0.	1.27E-02	0.	0.	0.	0.	0.	0.	5.91E-03	3.15E-05	4.44E-05	4.75E-05	1.55E-02
89	1.90 0.	0.	0.	0.	2.93E-02	0.	0.	0.	0.	0.	0.	5.91E-03	3.67E-05	4.79E-05	5.00E-05	2.68E-02
90	1.80 0.	0.	0.	0.	2.42E-02	0.	0.	0.	0.	0.	0.	5.91E-03	4.33E-05	5.14E-05	5.25E-05	3.21E-02
91	1.70 0.	0.	0.	0.	2.92E-02	0.	0.	0.	0.	0.	0.	5.91E-03	5.14E-05	5.59E-05	5.50E-05	2.62E-02
92	1.60 0.	0.	0.	0.	2.01E-02	0.	0.	0.	0.	0.	0.	5.91E-03	6.18E-05	6.16E-05	5.89E-05	2.79E-02
93	1.50 0.	0.	0.	0.	2.51E-02	0.	0.	0.	0.	0.	0.	5.91E-03	7.51E-05	7.51E-05	6.90E-05	1.99E-02
94	1.40 0.	0.	0.	0.	2.77E-02	0.	0.	0.	0.	0.	0.	5.91E-03	9.25E-04	9.25E-05	7.38E-05	1.64E-02
95	1.30 0.	0.	0.	0.	1.96E-02	0.	0.	0.	0.	0.	0.	5.91E-03	1.16E-04	1.16E-04	7.91E-05	1.56E-02
96	1.20 0.	0.	0.	0.	2.09E-02	0.	0.	0.	0.	0.	0.	5.91E-03	1.48E-04	1.48E-04	8.28E-05	1.25E-02
97	1.10 0.	0.	0.	0.	1.60E-02	0.	0.	0.	0.	0.	0.	5.91E-03	1.92E-04	1.92E-04	9.28E-05	1.07E-02
98	1.00 0.	0.	0.	0.	1.51E-02	0.	0.	0.	0.	0.	0.	5.91E-03	2.57E-04	2.57E-04	1.20E-04	6.33E-03
99	0.90 0.	0.	0.	0.	1.19E-02	0.	0.	0.	0.	0.	0.	5.91E-03	3.54E-04	3.54E-04	1.54E-04	2.59E-03
100	0.80 0.	0.	0.	0.	5.49E-03	0.	0.	0.	0.	0.	0.	5.91E-03	5.07E-04	5.07E-04	1.70E-04	1.73E-03
101	0.70 0.	0.	0.	0.	1.50E-03	0.	0.	0.	0.	0.	0.	5.91E-03	7.61E-04	7.61E-04	2.05E-04	1.07E-03
102	0.60 0.	0.	0.	0.	6.04E-05	0.	0.	0.	0.	0.	0.	5.91E-03	1.22E-03	1.22E-03	2.05E-04	1.73E-03

TEMPERATURE (DEGREES K) 800C. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON ENERGY E.V.	Q2 S-R R.A.NOS	Q2 S-K CONT.	N2 P-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
1 10.79 0.	0.	0.	1.25E-01	0.	0.	0.	1.11E-04	8.95E-09	1.30E-05	5.13E-06	1.25E-01
2 19.60 0.	0.	0.	1.04E-01	0.	0.	0.	1.12E-04	9.21E-09	1.31E-05	5.14E-06	1.04E-01
3 10.50 0.	0.	0.	9.96E-02	0.	0.	0.	1.12E-04	9.48E-09	1.32E-05	5.14E-06	9.97E-02
4 10.40 0.	0.	0.	8.71E-02	0.	0.	0.	1.12E-04	9.75E-09	1.32E-05	5.14E-06	8.73E-02
5 10.30 0.	0.	0.	6.94E-02	0.	0.	0.	1.12E-04	1.00E-08	1.32E-05	5.15E-06	6.95E-02
6 10.20 0.	0.	0.	6.76E-02	0.	0.	0.	1.12E-04	1.03E-08	1.33E-05	5.15E-06	6.77E-02
7 10.10 0.	0.	0.	6.00E-02	0.	0.	0.	1.12E-04	1.06E-08	1.33E-05	5.15E-06	6.01E-02
8 10.00 0.	0.	0.	4.67E-02	0.	0.	0.	1.12E-04	1.10E-08	1.33E-05	5.16E-06	4.68E-02
9 9.90 0.	0.	0.	4.68E-02	0.	0.	0.	1.13E-04	1.13E-08	1.34E-05	5.16E-06	4.70E-02
10 9.80 0.	0.	0.	4.03E-02	0.	0.	0.	1.13E-04	1.17E-08	1.34E-05	5.16E-06	4.04E-02
11 9.70 0.	0.	0.	3.11E-02	0.	0.	0.	1.13E-04	1.20E-08	1.34E-05	5.16E-06	3.12E-02
12 9.60 0.	0.	0.	3.32E-02	0.	0.	0.	1.13E-04	1.24E-08	1.35E-05	5.17E-06	3.34E-02
13 9.50 0.	0.	4.23E-04	2.51E-02	0.	0.	0.	1.13E-04	1.28E-08	1.35E-05	5.17E-06	2.57E-02
14 9.40 0.	0.	4.91E-04	2.18E-02	0.	0.	0.	1.14E-04	1.32E-08	1.35E-05	5.17E-06	2.24E-02
15 9.30 0.	0.	5.58E-04	2.18E-02	0.	0.	0.	1.14E-04	1.37E-08	1.36E-05	5.18E-06	2.25E-02
16 9.20 0.	0.	6.26E-04	1.54E-02	0.	0.	0.	1.15E-04	1.41E-08	3.53E-06	5.18E-06	1.62E-02
17 9.10 0.	0.	7.56E-04	1.58E-02	0.	0.	0.	1.15E-04	1.46E-08	3.52E-06	5.18E-06	1.67E-02
18 9.00 0.	0.	8.98E-04	1.30E-02	0.	0.	0.	1.16E-04	1.51E-08	3.50E-06	5.18E-06	1.40E-02
19 8.90 0.	0.	1.04E-03	1.09E-02	0.	0.	0.	1.16E-04	1.56E-08	3.49E-06	5.19E-06	1.21E-02
20 8.80 0.	0.	1.08E-03	1.03E-02	0.	0.	0.	1.16E-04	1.61E-08	3.48E-06	5.19E-06	1.15E-02
21 8.70 0.	0.	1.04E-03	7.84E-03	0.	0.	0.	1.17E-04	1.67E-08	3.47E-06	5.19E-06	9.01E-03
22 8.60 0.	0.	1.00E-03	7.90E-03	0.	0.	0.	1.17E-04	1.73E-08	3.46E-06	5.20E-06	9.03E-03
23 8.50 0.	0.	9.74E-04	6.07E-03	0.	0.	0.	1.18E-04	1.79E-08	3.45E-06	5.20E-06	7.17E-03
24 8.40 0.	0.	9.51E-04	5.80E-03	0.	0.	0.	1.18E-04	1.86E-08	3.44E-06	5.20E-06	6.88E-03
25 8.30 0.	0.	9.29E-04	4.36E-03	0.	0.	0.	1.19E-04	1.92E-08	3.43E-06	5.22E-06	5.41E-03
26 8.20 0.	0.	9.01E-04	4.23E-03	0.	0.	0.	1.19E-04	2.00E-08	3.41E-06	5.28E-06	5.25E-03
27 8.10 0.	0.	8.69E-04	3.25E-03	0.	0.	0.	1.20E-04	2.07E-08	3.40E-06	5.34E-06	4.25E-03
28 8.00 0.	0.	8.38E-04	3.11E-03	0.	0.	0.	1.21E-04	2.15E-08	3.38E-06	5.40E-06	4.08E-03
29 7.90 0.	0.	8.02E-04	2.40E-03	0.	0.	0.	1.21E-04	2.23E-08	3.37E-06	5.46E-06	3.33E-03
30 7.80 0.	0.	7.65E-04	2.35E-03	0.	0.	0.	1.22E-04	2.32E-08	3.36E-06	5.52E-06	3.25E-03
31 7.70 0.	0.	7.29E-04	1.86E-03	0.	0.	0.	1.23E-04	2.41E-08	3.34E-06	5.58E-06	2.72E-03
32 7.60 0.	0.	6.92E-04	1.64E-03	0.	0.	0.	1.23E-04	2.51E-08	3.33E-06	5.64E-06	2.47E-03
33 7.50 0.	0.	6.56E-04	1.38E-03	0.	1.91E-07	0.	1.24E-04	2.61E-08	3.32E-06	5.70E-06	2.17E-03
34 7.40 0.	0.	6.19E-04	1.15E-03	0.	1.25E-06	0.	1.24E-04	2.72E-08	3.31E-06	5.75E-06	1.90E-03
35 7.30 0.	0.	5.83E-04	9.97E-04	0.	4.98E-06	0.	1.25E-04	2.83E-08	3.30E-06	5.81E-06	1.74E-03
36 7.20 0.	0.	5.44E-04	8.23E-04	0.	8.12E-05	0.	1.26E-04	2.95E-08	3.29E-06	5.87E-06	1.58E-03
37 7.10 0.	0.	5.06E-04	7.29E-04	0.	1.80E-04	0.	1.27E-04	3.08E-08	3.27E-06	5.93E-06	1.55E-03
38 7.00 6.89E-07	0.	0.	6.11E-04	0.	6.00E-04	0.	1.28E-04	3.21E-08	3.26E-06	5.99E-06	1.35E-03
39 6.90 1.21E-06	0.	0.	5.15E-04	0.	5.15E-04	0.	1.29E-04	3.36E-08	3.25E-06	6.05E-06	1.17E-03
40 6.80 1.04E-06	0.	0.	4.51E-04	0.	1.16E-03	0.	1.30E-04	3.51E-08	3.24E-06	6.11E-06	1.76E-03
41 6.70 7.12E-07	0.	0.	3.59E-04	0.	1.65E-03	0.	1.31E-04	3.67E-08	3.23E-06	6.17E-06	2.15E-03
42 6.60 4.11E-07	0.	0.	2.93E-04	0.	8.31E-04	0.	1.32E-04	3.84E-08	3.23E-06	6.23E-06	1.27E-03
43 6.50 2.22E-07	0.	0.	2.07E-04	0.	1.63E-03	0.	1.33E-04	4.02E-08	3.23E-06	6.30E-06	1.98E-03
44 6.40 1.17E-07	0.	0.	1.21E-04	0.	1.32E-05	0.	1.35E-04	4.21E-08	3.23E-06	6.36E-06	2.46E-03
45 6.30 6.23E-08	0.	0.	6.29E-05	5.53E-05	9.44E-04	0.	1.36E-04	4.41E-08	3.23E-06	6.44E-06	1.21E-03
46 6.20 2.54E-08	0.	0.	2.95E-05	7.11E-05	1.51E-03	0.	1.36E-04	4.63E-08	3.23E-06	6.57E-06	1.76E-03
47 6.10 1.09E-08	0.	0.	1.19E-05	1.90E-04	2.63E-03	0.	1.37E-04	4.87E-08	3.25E-06	6.70E-06	2.98E-03
48 6.00 4.19E-09	0.	0.	2.73E-06	1.52E-04	8.43E-04	0.	1.38E-04	5.11E-08	3.27E-06	6.82E-06	1.15E-03
49 5.90 7.74E-10	0.	0.	1.93E-07	2.12E-04	9.46E-04	0.	1.38E-04	5.36E-08	3.29E-06	6.95E-06	1.31E-03
50 5.80 1.24E-10	0.	0.	4.70E-09	2.80E-04	8.80E-04	0.	1.36E-04	5.66E-08	3.32E-06	7.07E-06	1.31E-03
51 5.70 8.91E-12	0.	0.	0.	2.93E-04	8.77E-04	0.	1.28E-04	5.97E-08	3.33E-06	7.20E-06	1.31E-03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R		TEMPERATURE (DEGREES K)		8000.		DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)		FREE-FREE		O		TOTAL AIR	
ENERGY	RANDS	1ST POS.	2ND POS.	N2	N2+	BETA	NO	GAMMA	VIB-ROT	NO	PHOTO-DET (IONS)	N	P.E.
52	5.60	3.89E-13	0.	0.	0.	2.09E-04	1.52E-03	0.	0.	1.19E-04	6.29E-08	3.36E-06	7.33E-06
53	5.50	0.	0.	0.	0.	2.58E-04	1.52E-03	0.	0.	1.20E-04	6.64E-08	3.39E-06	7.45E-06
54	5.40	0.	0.	0.	0.	2.11E-04	9.00E-04	0.	0.	1.20E-04	7.02E-08	3.43E-06	7.58E-06
55	5.30	0.	0.	0.	0.	2.18E-04	1.44E-03	0.	0.	1.21E-04	7.43E-08	3.47E-06	7.73E-06
56	5.20	0.	0.	0.	0.	2.22E-04	7.51E-04	0.	0.	1.22E-04	7.86E-08	3.51E-06	7.93E-06
57	5.10	0.	0.	0.	0.	2.12E-04	1.05E-03	0.	0.	1.23E-04	8.34E-08	3.59E-06	8.12E-06
58	5.00	4.32E-06	0.	0.	0.	1.82E-04	8.89E-04	0.	0.	1.24E-04	8.85E-08	3.68E-06	8.31E-06
59	4.90	9.44E-06	0.	0.	0.	1.92E-04	8.40E-04	0.	0.	1.25E-04	9.40E-08	3.78E-06	8.50E-06
60	4.80	1.59E-05	0.	0.	0.	2.00E-04	7.71E-04	0.	0.	1.26E-04	1.00E-08	3.87E-06	8.70E-06
61	4.70	1.97E-05	0.	0.	0.	1.86E-04	6.17E-04	0.	0.	1.27E-04	1.07E-07	3.96E-06	8.91E-06
62	4.60	2.4E-05	0.	0.	0.	1.82E-04	5.88E-04	0.	0.	1.28E-04	1.14E-07	4.07E-06	9.13E-06
63	4.50	2.3E-05	0.	0.	0.	1.53E-04	3.98E-04	0.	0.	1.29E-04	1.21E-07	4.20E-06	9.35E-06
64	4.40	2.2E-05	0.	0.	0.	1.47E-04	3.06E-04	0.	0.	1.30E-04	1.30E-07	4.32E-06	9.56E-06
65	4.30	1.9E-05	0.	0.	0.	1.29E-04	1.62E-04	0.	0.	1.31E-04	1.39E-07	4.45E-06	9.78E-06
66	4.20	1.74E-05	0.	0.	0.	1.32E-04	1.36E-04	0.	0.	1.32E-04	1.50E-07	4.59E-06	9.99E-06
67	4.10	1.53E-05	0.	0.	0.	1.18E-04	3.41E-05	0.	0.	1.33E-04	1.61E-07	4.72E-06	9.73E-07
68	4.00	1.31E-05	0.	0.	0.	1.07E-04	2.58E-05	0.	0.	1.33E-04	1.73E-07	3.40E-06	1.00E-06
69	3.90	1.02E-05	0.	0.	0.	8.79E-05	1.18E-05	0.	0.	1.33E-04	1.87E-07	2.64E-06	1.03E-06
70	3.80	1.01E-05	0.	0.	0.	9.20E-05	0.	0.	0.	1.32E-04	2.02E-07	2.70E-06	1.06E-06
71	3.70	8.48E-06	0.	0.	0.	6.73E-05	0.	0.	0.	1.30E-04	2.19E-07	2.77E-06	1.21E-06
72	3.60	7.16E-06	0.	0.	0.	2.65E-04	1.85E-04	0.	0.	1.30E-04	2.38E-07	2.36E-06	1.38E-06
73	3.50	6.14E-06	0.	0.	0.	4.55E-04	7.12E-04	0.	0.	1.11E-04	2.59E-07	2.68E-06	1.56E-06
74	3.40	5.14E-06	0.	0.	0.	1.95E-04	3.68E-05	0.	0.	1.43E-05	2.83E-07	3.04E-06	1.75E-06
75	3.30	3.9E-06	0.	0.	0.	2.26E-04	2.52E-04	0.	0.	6.44E-05	3.09E-07	3.40E-06	1.94E-06
76	3.20	3.09E-06	0.	0.	0.	1.15E-04	7.94E-04	0.	0.	6.45E-05	3.39E-07	3.76E-06	2.14E-06
77	3.10	2.72E-06	0.	0.	0.	9.00E-05	5.77E-05	0.	0.	6.46E-05	3.74E-07	4.13E-06	2.34E-06
78	3.00	2.2E-06	0.	0.	0.	4.72E-05	2.56E-04	0.	0.	6.48E-05	4.12E-07	4.50E-06	2.54E-06
79	2.90	1.68E-06	0.	0.	0.	2.78E-05	1.91E-04	0.	0.	6.49E-05	4.57E-07	4.87E-06	2.74E-06
80	2.80	1.63E-06	0.	0.	0.	1.27E-05	5.16E-05	0.	0.	6.50E-05	5.08E-07	5.27E-06	2.95E-06
81	2.70	9.07E-07	0.	0.	0.	5.78E-06	1.26E-04	0.	0.	6.50E-05	5.66E-07	5.68E-06	3.17E-06
82	2.60	3.5E-07	0.	0.	0.	2.96E-06	1.21E-05	0.	0.	6.50E-05	6.34E-07	6.12E-06	3.63E-07
83	2.50	2.3E-08	0.	0.	0.	4.06E-07	7.73E-06	0.	0.	6.50E-05	7.14E-07	2.77E-06	9.91E-07
84	2.40	0.	0.	0.	0.	1.01E-05	3.56E-08	0.	0.	6.50E-05	8.08E-07	3.47E-06	1.22E-06
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	6.45E-05	9.18E-07	4.20E-06	1.46E-06
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	6.42E-05	1.05E-06	4.96E-06	1.76E-06
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	6.40E-05	1.21E-06	5.78E-06	2.06E-06
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	6.19E-05	1.40E-06	6.59E-06	2.36E-06
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	5.96E-05	1.64E-06	7.43E-06	2.67E-06
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	5.70E-05	1.93E-06	8.68E-06	3.14E-06
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	5.37E-05	2.29E-06	1.02E-05	3.74E-06
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	4.54E-05	2.75E-06	1.17E-05	4.33E-06
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	2.06E-05	3.35E-06	1.29E-05	4.78E-06
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.12E-06	1.56E-05	5.72E-06
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.16E-06	1.28E-05	4.71E-06
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.59E-06	1.68E-05	6.22E-06
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.58E-06	2.10E-05	6.84E-06
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.14E-05	2.40E-05	8.29E-06
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.58E-05	2.81E-05	9.73E-06
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.26E-05	3.18E-05	1.11E-05
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.39E-05	3.07E-05	8.74E-06
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.46E-05	3.03E-05	9.87E-06

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTO: 02 S-R		02 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-05		110.0E-03 NORMAL		TOTAL AIR	
ENERGY BANDS		CONT.		N2 E-H		NO		O-		FREE-FREE		P.E.	
E.V.				NO. 1		RETA		PHOTO-DET (IONS)		N		P.E.	
1	10.70	0.	0.	2.82E-03	0.	0.	0.	3.12E-06	6.84E-10	1.96E-06	5.20E-07	2.83E-03	2.83E-03
2	10.60	0.	0.	2.35E-03	0.	0.	0.	3.12E-06	7.03E-10	1.97E-06	5.20E-07	2.35E-03	2.35E-03
3	10.50	0.	0.	2.25E-03	0.	0.	0.	3.13E-06	7.24E-10	1.98E-06	5.20E-07	2.25E-03	2.25E-03
4	10.40	0.	0.	1.97E-03	0.	0.	0.	3.13E-06	7.45E-10	1.98E-06	5.20E-07	1.97E-03	1.97E-03
5	10.30	0.	0.	1.57E-03	0.	0.	0.	3.13E-06	7.67E-10	1.99E-06	5.21E-07	1.57E-03	1.57E-03
6	10.20	0.	0.	1.53E-03	0.	0.	0.	3.14E-06	7.90E-10	1.99E-06	5.21E-07	1.53E-03	1.53E-03
7	10.10	0.	0.	1.35E-03	0.	0.	0.	3.14E-06	8.14E-10	2.00E-06	5.21E-07	1.35E-03	1.35E-03
8	10.00	0.	0.	1.05E-03	0.	0.	0.	3.15E-06	8.38E-10	2.00E-06	5.22E-07	1.05E-03	1.05E-03
9	9.90	0.	0.	1.06E-03	0.	0.	0.	3.15E-06	8.64E-10	2.01E-06	5.22E-07	1.06E-03	1.06E-03
10	9.80	0.	0.	9.10E-04	0.	0.	0.	3.16E-06	8.91E-10	2.01E-06	5.22E-07	9.10E-04	9.10E-04
11	9.70	0.	0.	7.02E-04	0.	0.	0.	3.16E-06	9.19E-10	2.02E-06	5.23E-07	7.02E-04	7.02E-04
12	9.60	0.	0.	7.50E-04	0.	0.	0.	3.17E-06	9.48E-10	2.02E-06	5.23E-07	7.50E-04	7.50E-04
13	9.50	0.	0.	5.67E-04	0.	0.	0.	3.18E-06	9.79E-10	2.03E-06	5.23E-07	5.67E-04	5.67E-04
14	9.40	0.	0.	4.93E-04	0.	0.	0.	3.19E-06	1.01E-09	2.04E-06	5.23E-07	5.03E-04	5.03E-04
15	9.30	0.	0.	5.72E-06	0.	0.	0.	3.20E-06	1.04E-09	5.32E-07	5.24E-07	5.02E-04	5.02E-04
16	9.20	0.	0.	6.42E-06	0.	0.	0.	3.21E-06	1.08E-09	5.30E-07	5.24E-07	3.59E-04	3.59E-04
17	9.10	0.	0.	7.75E-06	0.	0.	0.	3.22E-06	1.11E-09	5.28E-07	5.24E-07	3.70E-04	3.70E-04
18	9.00	0.	0.	9.21E-06	0.	0.	0.	3.23E-06	1.15E-09	5.26E-07	5.25E-07	3.06E-04	3.06E-04
19	8.90	0.	0.	1.07E-05	0.	0.	0.	3.24E-06	1.19E-09	5.25E-07	5.25E-07	2.62E-04	2.62E-04
20	8.80	0.	0.	1.11E-05	0.	0.	0.	3.26E-06	1.23E-09	5.23E-07	5.25E-07	2.48E-04	2.48E-04
21	8.70	0.	0.	1.07E-05	0.	0.	0.	3.27E-06	1.28E-09	5.21E-07	5.26E-07	1.92E-04	1.92E-04
22	8.60	0.	0.	1.03E-05	0.	0.	0.	3.28E-06	1.32E-09	5.19E-07	5.26E-07	1.93E-04	1.93E-04
23	8.50	0.	0.	9.99E-06	0.	0.	0.	3.29E-06	1.37E-09	5.18E-07	5.26E-07	1.51E-04	1.51E-04
24	8.40	0.	0.	9.75E-06	0.	0.	0.	3.31E-06	1.42E-09	5.16E-07	5.27E-07	1.45E-04	1.45E-04
25	8.30	0.	0.	9.52E-06	0.	0.	0.	3.33E-06	1.47E-09	5.15E-07	5.29E-07	1.12E-04	1.12E-04
26	8.20	0.	0.	9.24E-06	0.	0.	0.	3.34E-06	1.52E-09	5.13E-07	5.35E-07	1.09E-04	1.09E-04
27	8.10	0.	0.	8.91E-06	0.	0.	0.	3.36E-06	1.58E-09	5.10E-07	5.41E-07	8.67E-05	8.67E-05
28	8.00	0.	0.	8.59E-06	0.	0.	0.	3.38E-06	1.64E-09	5.08E-07	5.46E-07	8.32E-05	8.32E-05
29	7.90	0.	0.	8.22E-06	0.	0.	0.	3.39E-06	1.71E-09	5.06E-07	5.52E-07	6.68E-05	6.68E-05
30	7.80	0.	0.	7.85E-06	0.	0.	0.	3.41E-06	1.77E-09	5.04E-07	5.58E-07	6.55E-05	6.55E-05
31	7.70	0.	0.	7.47E-06	0.	0.	0.	3.43E-06	1.84E-09	5.02E-07	5.64E-07	5.40E-05	5.40E-05
32	7.60	0.	0.	7.10E-06	0.	0.	0.	3.45E-06	1.92E-09	5.01E-07	5.70E-07	4.87E-05	4.87E-05
33	7.50	0.	0.	6.72E-06	0.	0.	0.	3.46E-06	1.99E-09	4.99E-07	5.76E-07	4.24E-05	4.24E-05
34	7.40	0.	0.	6.35E-06	0.	0.	0.	3.48E-06	2.08E-09	4.97E-07	5.82E-07	3.69E-05	3.69E-05
35	7.30	0.	0.	5.97E-06	0.	0.	0.	3.50E-06	2.16E-09	4.95E-07	5.88E-07	3.35E-05	3.35E-05
36	7.20	0.	0.	5.58E-06	0.	0.	0.	3.52E-06	2.25E-09	4.94E-07	5.94E-07	3.00E-05	3.00E-05
37	7.10	0.	0.	5.19E-06	0.	0.	0.	3.55E-06	2.35E-09	4.92E-07	6.00E-07	2.90E-05	2.90E-05
38	7.00	0.	0.	4.80E-06	0.	0.	0.	3.58E-06	2.45E-09	4.90E-07	6.06E-07	2.76E-05	2.76E-05
39	6.90	0.	0.	4.41E-06	0.	0.	0.	3.61E-06	2.56E-09	4.88E-07	6.12E-07	2.42E-05	2.42E-05
40	6.80	0.	0.	4.02E-06	0.	0.	0.	3.64E-06	2.68E-09	4.87E-07	6.18E-07	3.26E-05	3.26E-05
41	6.70	0.	0.	3.63E-06	0.	0.	0.	3.67E-06	2.80E-09	4.85E-07	6.24E-07	3.79E-05	3.79E-05
42	6.60	0.	0.	3.24E-06	0.	0.	0.	3.70E-06	2.93E-09	4.85E-07	6.31E-07	2.41E-05	2.41E-05
43	6.50	0.	0.	2.85E-06	0.	0.	0.	3.72E-06	3.07E-09	4.85E-07	6.37E-07	3.44E-05	3.44E-05
44	6.40	0.	0.	2.46E-06	0.	0.	0.	3.75E-06	3.22E-09	4.85E-07	6.44E-07	4.09E-05	4.09E-05
45	6.30	0.	0.	2.07E-06	0.	0.	0.	3.78E-06	3.37E-09	4.85E-07	6.52E-07	2.15E-05	2.15E-05
46	6.20	0.	0.	1.68E-06	0.	0.	0.	3.81E-06	3.54E-09	4.85E-07	6.65E-07	2.97E-05	2.97E-05
47	6.10	0.	0.	1.29E-06	0.	0.	0.	3.84E-06	3.72E-09	4.88E-07	6.77E-07	4.82E-05	4.82E-05
48	6.00	0.	0.	9.10E-07	0.	0.	0.	3.87E-06	3.91E-09	4.91E-07	6.90E-07	2.02E-05	2.02E-05
49	5.90	0.	0.	4.36E-09	0.	0.	0.	3.87E-06	4.11E-09	4.95E-07	7.03E-07	2.27E-05	2.27E-05
50	5.80	0.	0.	1.06E-10	0.	0.	0.	3.81E-06	4.33E-09	4.98E-07	7.16E-07	2.27E-05	2.27E-05
51	5.70	0.	0.	0.	0.	0.	0.	3.58E-06	4.56E-09	5.01E-07	7.28E-07	2.26E-05	2.26E-05

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON Q2 S-R		TEMPERATURE (DEGREES K)		8000.		DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)		O- PHOTO-DET (IONS)		FREE-FAEE		N		O		TOTAL AIR						
ENERGY	BANDS	N2	1ST POS.	N2	2ND POS.	1ST NEG.	N2+	BETA	NU	GAMMA	NO	NG	VIB-ROT	NO	2	PHOTO-DET (IONS)	FREE-FAEE	N	P.E.	O	P.E.	TOTAL AIR
52	5.60	3.94F-15	0.	0.	0.	0.	0.	3.16E-06	2.32E-05	0.	0.	0.	0.	0.	0.	3.33E-06	4.81E-09	5.05E-07	7.41E-07	7.41E-07	3.09E-05	3.09E-05
53	5.50	0.	0.	0.	0.	0.	0.	3.93E-06	2.31E-05	0.	0.	0.	0.	0.	0.	3.35E-06	5.07E-09	5.09E-07	7.54E-07	7.54E-07	3.17E-05	3.17E-05
54	5.40	0.	0.	0.	0.	0.	0.	3.21E-06	1.37E-05	0.	0.	0.	0.	0.	0.	3.36E-06	5.36E-09	5.15E-07	7.67E-07	7.67E-07	2.16E-05	2.16E-05
55	5.30	0.	0.	0.	0.	0.	0.	3.31E-06	2.19E-05	0.	0.	0.	0.	0.	0.	3.38E-06	5.67E-09	5.21E-07	7.83E-07	7.83E-07	2.99E-05	2.99E-05
56	5.20	0.	0.	0.	0.	0.	0.	3.38E-06	1.14E-05	0.	0.	0.	0.	0.	0.	3.41E-06	6.01E-09	5.27E-07	8.02E-07	8.02E-07	1.95E-05	1.95E-05
57	5.10	0.	0.	0.	0.	0.	0.	3.23E-06	1.60E-05	0.	0.	0.	0.	0.	0.	3.44E-06	6.37E-09	5.40E-07	8.22E-07	8.22E-07	2.40E-05	2.40E-05
58	5.00	4.4E-08	0.	0.	0.	0.	0.	2.76E-06	1.35E-05	0.	0.	0.	0.	0.	0.	3.46E-06	6.76E-09	5.54E-07	8.41E-07	8.41E-07	2.12E-05	2.12E-05
59	4.90	3.67E-08	0.	0.	0.	0.	0.	2.92E-06	1.28E-05	0.	0.	0.	0.	0.	0.	3.49E-06	7.18E-09	5.68E-07	8.60E-07	8.60E-07	2.07E-05	2.07E-05
60	4.80	1.63E-07	0.	0.	0.	0.	0.	3.04E-06	1.17E-05	0.	0.	0.	0.	0.	0.	3.52E-06	7.64E-09	5.81E-07	8.80E-07	8.80E-07	1.99E-05	1.99E-05
61	4.70	1.97E-07	0.	0.	0.	0.	0.	2.82E-06	9.38E-06	0.	0.	0.	0.	0.	0.	3.55E-06	8.14E-09	5.95E-07	9.02E-07	9.02E-07	1.75E-05	1.75E-05
62	4.60	2.46E-07	0.	0.	0.	0.	0.	2.77E-06	8.94E-06	0.	0.	0.	0.	0.	0.	3.58E-06	8.68E-09	6.11E-07	9.24E-07	9.24E-07	1.71E-05	1.71E-05
63	4.50	2.33E-07	0.	0.	0.	0.	0.	2.32E-06	6.05E-06	0.	0.	0.	0.	0.	0.	3.61E-06	9.27E-09	6.30E-07	9.46E-07	9.46E-07	1.41E-05	1.41E-05
64	4.40	2.33E-07	0.	0.	0.	0.	0.	2.23E-06	4.65E-06	0.	0.	0.	0.	0.	0.	3.64E-06	9.92E-09	6.49E-07	9.68E-07	9.68E-07	1.36E-05	1.36E-05
65	4.30	2.03E-07	0.	0.	0.	0.	0.	1.96E-06	2.47E-06	0.	0.	0.	0.	0.	0.	3.67E-06	1.06E-08	6.69E-07	9.89E-07	9.89E-07	1.25E-05	1.25E-05
66	4.20	1.78E-07	0.	0.	0.	0.	0.	2.00E-06	2.07E-06	0.	0.	0.	0.	0.	0.	3.70E-06	1.14E-08	6.89E-07	9.55E-08	9.55E-08	2.04E-05	2.04E-05
67	4.10	1.56E-07	0.	0.	0.	0.	0.	1.79E-06	5.19E-07	0.	0.	0.	0.	0.	0.	3.71E-06	1.23E-08	6.99E-07	9.84E-08	9.84E-08	9.83E-06	9.83E-06
68	4.00	1.34E-07	0.	0.	0.	0.	0.	1.62E-06	3.92E-07	0.	0.	0.	0.	0.	0.	3.72E-06	1.32E-08	5.11E-07	1.01E-07	1.01E-07	2.27E-05	2.27E-05
69	3.90	1.04E-07	0.	0.	0.	0.	0.	7.23E-06	1.23E-05	0.	0.	0.	0.	0.	0.	3.71E-06	1.43E-08	3.96E-07	1.04E-07	1.04E-07	1.44E-05	1.44E-05
70	3.80	1.1E-07	0.	0.	0.	0.	0.	9.27E-06	1.51E-05	0.	0.	0.	0.	0.	0.	3.70E-06	1.54E-08	4.06E-07	1.07E-07	1.07E-07	2.74E-05	2.74E-05
71	3.70	8.6E-08	0.	0.	0.	0.	0.	1.37E-05	2.34E-06	0.	0.	0.	0.	0.	0.	3.64E-06	1.67E-08	3.20E-07	1.22E-07	1.22E-07	2.13E-05	2.13E-05
72	3.60	7.33E-08	0.	0.	0.	0.	0.	1.03E-05	5.81E-05	0.	0.	0.	0.	0.	0.	3.41E-06	1.82E-08	3.54E-07	1.40E-07	1.40E-07	2.62E-05	2.62E-05
73	3.50	6.34E-08	0.	0.	0.	0.	0.	4.41E-06	3.00E-06	0.	0.	0.	0.	0.	0.	3.12E-06	1.98E-08	4.03E-07	1.58E-07	1.58E-07	7.29E-05	7.29E-05
74	3.40	5.20E-08	0.	0.	0.	0.	0.	5.10E-06	2.06E-05	0.	0.	0.	0.	0.	0.	1.80E-06	2.16E-08	4.57E-07	1.77E-07	1.77E-07	1.08E-05	1.08E-05
75	3.30	3.94E-08	0.	0.	0.	0.	0.	2.59E-06	6.48E-05	0.	0.	0.	0.	0.	0.	1.80E-06	2.36E-08	5.11E-07	1.97E-07	1.97E-07	2.88E-05	2.88E-05
76	3.20	3.1E-08	0.	0.	0.	0.	0.	2.03E-06	2.09E-05	0.	0.	0.	0.	0.	0.	1.80E-06	2.59E-08	5.65E-07	2.17E-07	2.17E-07	7.07E-05	7.07E-05
77	3.10	2.7E-08	0.	0.	0.	0.	0.	2.03E-06	4.71E-06	0.	0.	0.	0.	0.	0.	1.81E-06	2.85E-08	6.21E-07	2.37E-07	2.37E-07	9.97E-06	9.97E-06
78	3.00	2.27E-08	0.	0.	0.	0.	0.	1.07E-06	2.09E-05	0.	0.	0.	0.	0.	0.	1.81E-06	3.15E-08	6.76E-07	2.57E-07	2.57E-07	1.52E-05	1.52E-05
79	2.90	1.77E-08	0.	0.	0.	0.	0.	6.27E-07	1.56E-05	0.	0.	0.	0.	0.	0.	1.82E-06	3.49E-08	7.32E-07	2.78E-07	2.78E-07	1.94E-05	1.94E-05
80	2.80	1.67E-08	0.	0.	0.	0.	0.	2.86E-07	4.21E-06	0.	0.	0.	0.	0.	0.	1.82E-06	3.88E-08	7.92E-07	2.99E-07	2.99E-07	1.62E-06	1.62E-06
81	2.70	9.28E-09	0.	0.	0.	0.	0.	1.31E-07	1.03E-05	0.	0.	0.	0.	0.	0.	1.82E-06	4.33E-08	8.53E-07	3.15E-07	3.15E-07	1.35E-05	1.35E-05
82	2.60	3.63E-09	0.	0.	0.	0.	0.	6.69E-08	9.89E-07	0.	0.	0.	0.	0.	0.	1.82E-06	4.85E-08	9.20E-07	3.73E-08	3.73E-08	3.96E-06	3.96E-06
83	2.50	2.36E-10	0.	0.	0.	0.	0.	9.17E-09	6.31E-07	0.	0.	0.	0.	0.	0.	1.82E-06	5.45E-08	9.21E-07	1.00E-07	1.00E-07	3.04E-06	3.04E-06
84	2.40	0.	0.	0.	0.	0.	0.	6.15E-07	0.	0.	0.	0.	0.	0.	0.	1.80E-06	6.17E-08	5.21E-07	1.24E-07	1.24E-07	3.96E-06	3.96E-06
85	2.30	0.	0.	0.	0.	0.	0.	3.26E-06	0.	0.	0.	0.	0.	0.	0.	1.80E-06	7.01E-08	6.32E-07	1.48E-07	1.48E-07	5.92E-06	5.92E-06
86	2.20	0.	0.	0.	0.	0.	0.	6.36E-06	0.	0.	0.	0.	0.	0.	0.	1.80E-06	8.02E-08	7.46E-07	1.78E-07	1.78E-07	9.17E-06	9.17E-06
87	2.10	0.	0.	0.	0.	0.	0.	1.03E-05	0.	0.	0.	0.	0.	0.	0.	1.79E-06	9.24E-08	8.68E-07	2.09E-07	2.09E-07	1.33E-05	1.33E-05
88	2.00	0.	0.	0.	0.	0.	0.	1.54E-05	0.	0.	0.	0.	0.	0.	0.	1.73E-06	1.07E-07	9.91E-07	2.39E-07	2.39E-07	1.85E-05	1.85E-05
89	1.90	0.	0.	0.	0.	0.	0.	3.57E-05	0.	0.	0.	0.	0.	0.	0.	1.67E-06	1.25E-07	1.12E-06	2.70E-07	2.70E-07	3.89E-05	3.89E-05
90	1.80	0.	0.	0.	0.	0.	0.	2.94E-05	0.	0.	0.	0.	0.	0.	0.	1.59E-06	1.47E-07	1.30E-06	3.18E-07	3.18E-07	3.28E-05	3.28E-05
91	1.70	0.	0.	0.	0.	0.	0.	3.56E-05	0.	0.	0.	0.	0.	0.	0.	1.50E-06	1.75E-07	1.53E-06	3.70E-07	3.70E-07	3.92E-05	3.92E-05
92	1.60	0.	0.	0.	0.	0.	0.	2.45E-05	0.	0.	0.	0.	0.	0.	0.	1.50E-06	2.10E-07	1.76E-06	4.04E-07	4.04E-07	2.82E-05	2.82E-05
93	1.50	0.	0.	0.	0.	0.	0.	3.05E-05	0.	0.	0.	0.	0.	0.	0.	1.50E-06	2.56E-07	1.94E-06	4.83E-07	4.83E-07	3.38E-05	3.38E-05
94	1.40	0.	0.	0.	0.	0.	0.	3.37E-05	0.	0.	0.	0.	0.	0.	0.	1.50E-06	3.15E-07	1.34E-06	3.41E-07	3.41E-07	3.57E-05	3.57E-05
95	1.30	0.	0.	0.	0.	0.	0.	2.39E-05	0.	0.	0.	0.	0.	0.	0.	1.50E-06	3.94E-07	1.90E-06	4.77E-07	4.77E-07	2.67E-05	2.67E-05
96	1.20	0.	0.	0.	0.	0.	0.	2.54E-05	0.	0.	0.	0.	0.	0.	0.	1.50E-06	5.03E-07	2.53E-06	6.30E-07	6.30E-07	2.91E-05	2.91E-05
97	1.10	0.	0.	0.	0.	0.	0.	1.95E-05	0.	0.	0.	0.	0.	0.	0.	1.50E-06	6.55E-07	2.99E-06	6.92E-07	6.92E-07	2.38E-05	2.38E-05
98	1.00	0.	0.	0.	0.	0.	0.	1.84E-05	0.	0.	0.	0.	0.	0.	0.	1.50E-06	8.75E-07	3.60E-06	8.39E-07	8.39E-07	2.38E-05	2.38E-05
99	0.90	0.	0.	0.	0.	0.	0.	1.45E-05	0.	0.	0.	0.	0.	0.	0.	1.50E-06	1.21E-06	4.22E-06	9.85E-07	9.85E-07	2.10E-05	2.10E-05
100	0.80	0.	0.	0.	0.	0.	0.	6.69E-06	0.	0.	0.	0.	0.	0.	0.	1.50E-06	1.72E-06	4.77E-06	1.12E-06	1.12E-06	1.43E-05	1.43E-05
101	0.70	0.	0.	0.	0.	0.	0.	1.83E-06	0.	0.	0.	0.	0.	0.	0.	1.50E-06	2.59E-06	4.05E-06	8.84E-07	8.84E-07	9.36E-06	9.36E-06
102	0.60	0.	0.	0.	0.	0.	0.	7.35E-06	0.	0.	0.	0.	0.	0.	0.	1.50E-06	4.17E-06	4.55E-06	9.99E-07	9.99E-07	9.87E-06	9.87E-06



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		8000.		DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)		NO 2		O- PHOTO-DET (IONS)		FREE-FREE P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	J2 S-R BANDS	02 S-K CONT.	N2 8-H NO. 1	NU BETA	NU GAMMA	0.	1.	2.	3.	4.	5.	6.	7.
1 10.70 0.		0.	3.29E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.		0.	2.73E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.		0.	2.62E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.		0.	2.29E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.		0.	1.82E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.		0.	1.78E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.		0.	1.58E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.		0.	1.23E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.		0.	1.23E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.		0.	1.06E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.		0.	8.17E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.		0.	8.73E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.		0.	6.61E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.		0.	5.00E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.		0.	5.69E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.		0.	6.38E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.		0.	7.71E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.		0.	9.15E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.		0.	1.06E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.		0.	1.10E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.		0.	1.06E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.		0.	1.02E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.		0.	9.93E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.		0.	9.69E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.		0.	9.47E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.		0.	9.18E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.		0.	8.86E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.		0.	8.54E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.		0.	8.17E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.		0.	7.80E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.		0.	7.43E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.		0.	7.05E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.		0.	6.68E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.		0.	6.31E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.		0.	5.94E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.		0.	5.55E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.		0.	5.16E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.		0.	4.79E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.		0.	4.41E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.		0.	4.04E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.		0.	3.67E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.		0.	3.30E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.		0.	2.93E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.		0.	2.56E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.		0.	2.19E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.		0.	1.82E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.		0.	1.45E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.		0.	1.08E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.		0.	7.51E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.		0.	4.14E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.		0.	1.77E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON 02 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		110.0E-04 NORMAL		FREE-FREE		N		O		TOTAL AIR	
ENERGY BANDS		1ST POS. 2ND POS.		1ST NEG.		2		PHOTO-DET (IONS)		P.E.		P.E.		P.E.	
52	5.60 3.9E-17	0.	0.	3.40E-08	2.49E-07	0.	0.	1.03E-07	4.63E-10	5.45E-08	7.39E-08	5.15E-07	5.15E-07	5.15E-07	5.15E-07
53	5.50 0.	0.	0.	4.23E-08	2.49E-07	0.	0.	1.04E-07	4.89E-10	5.50E-08	7.52E-08	5.25E-07	5.25E-07	5.25E-07	5.25E-07
54	5.40 0.	0.	0.	3.46E-08	1.47E-07	0.	0.	1.04E-07	5.16E-10	5.56E-08	7.65E-08	5.11E-07	5.11E-07	5.11E-07	5.11E-07
55	5.30 0.	0.	0.	3.56E-08	2.36E-07	0.	0.	1.05E-07	5.46E-10	5.62E-08	7.80E-08	5.02E-07	5.02E-07	5.02E-07	5.02E-07
56	5.20 0.	0.	0.	3.64E-08	1.23E-07	0.	0.	1.05E-07	5.78E-10	5.69E-08	8.00E-08	4.53E-07	4.53E-07	4.53E-07	4.53E-07
57	5.10 0.	0.	0.	3.47E-08	1.72E-07	0.	0.	1.06E-07	6.13E-10	5.83E-08	8.19E-08	4.27E-07	4.27E-07	4.27E-07	4.27E-07
58	5.00 4.34E-10	0.	0.	2.97E-08	1.45E-07	0.	0.	1.07E-07	6.51E-10	5.97E-08	8.39E-08	4.25E-07	4.25E-07	4.25E-07	4.25E-07
59	4.90 9.61E-10	0.	0.	3.14E-08	1.37E-07	0.	0.	1.08E-07	6.91E-10	6.13E-08	8.58E-08	4.21E-07	4.21E-07	4.21E-07	4.21E-07
60	4.80 1.62E-07	0.	0.	3.27E-08	1.26E-07	0.	0.	1.09E-07	7.36E-10	6.27E-08	8.78E-08	3.98E-07	3.98E-07	3.98E-07	3.98E-07
61	4.70 1.90E-09	0.	0.	3.04E-08	1.01E-07	0.	0.	1.10E-07	7.84E-10	6.42E-08	8.99E-08	3.71E-07	3.71E-07	3.71E-07	3.71E-07
62	4.60 2.44E-09	0.	0.	2.98E-08	9.61E-08	0.	0.	1.11E-07	8.36E-10	6.60E-08	9.21E-08	3.65E-07	3.65E-07	3.65E-07	3.65E-07
63	4.50 2.37E-09	0.	0.	2.50E-08	6.51E-08	0.	0.	1.12E-07	8.93E-10	6.80E-08	9.43E-08	3.41E-07	3.41E-07	3.41E-07	3.41E-07
64	4.40 2.32E-09	0.	0.	2.40E-08	5.00E-08	0.	0.	1.13E-07	9.56E-10	7.01E-08	9.65E-08	3.20E-07	3.20E-07	3.20E-07	3.20E-07
65	4.30 2.01E-09	0.	0.	2.11E-08	2.65E-08	0.	0.	1.13E-07	1.02E-09	7.22E-08	9.86E-08	3.05E-07	3.05E-07	3.05E-07	3.05E-07
66	4.20 1.77E-09	0.	0.	2.15E-08	2.23E-08	0.	0.	1.14E-07	1.10E-09	7.43E-08	9.53E-08	2.81E-07	2.81E-07	2.81E-07	2.81E-07
67	4.10 1.56E-09	0.	0.	1.93E-08	5.58E-09	0.	0.	1.14E-07	1.18E-09	7.64E-08	9.81E-08	2.61E-07	2.61E-07	2.61E-07	2.61E-07
68	4.00 1.34E-09	0.	0.	1.75E-08	4.22E-09	0.	0.	1.15E-07	1.27E-09	7.85E-08	1.01E-08	2.41E-07	2.41E-07	2.41E-07	2.41E-07
69	3.90 1.04E-09	0.	0.	1.44E-08	1.93E-09	0.	0.	1.15E-07	1.37E-09	8.06E-08	1.04E-08	2.21E-07	2.21E-07	2.21E-07	2.21E-07
70	3.80 1.04E-09	0.	0.	1.08E-07	4.63E-07	0.	0.	1.15E-07	1.47E-09	8.27E-08	1.07E-08	2.01E-07	2.01E-07	2.01E-07	2.01E-07
71	3.70 8.63E-10	0.	0.	1.60E-07	8.76E-08	0.	0.	1.16E-07	1.57E-09	8.48E-08	1.10E-08	1.81E-07	1.81E-07	1.81E-07	1.81E-07
72	3.60 7.24E-10	0.	0.	6.98E-08	5.67E-07	0.	0.	1.16E-07	1.67E-09	8.69E-08	1.13E-08	1.61E-07	1.61E-07	1.61E-07	1.61E-07
73	3.50 6.3E-10	0.	0.	1.20E-07	2.18E-06	0.	0.	1.17E-07	1.77E-09	8.90E-08	1.16E-08	1.41E-07	1.41E-07	1.41E-07	1.41E-07
74	3.40 5.24E-10	0.	0.	5.93E-08	7.71E-07	0.	0.	1.17E-07	1.87E-09	9.11E-08	1.19E-08	1.21E-07	1.21E-07	1.21E-07	1.21E-07
75	3.30 3.97E-10	0.	0.	3.02E-08	2.43E-06	0.	0.	1.18E-07	1.97E-09	9.32E-08	1.22E-08	1.01E-07	1.01E-07	1.01E-07	1.01E-07
76	3.20 3.14E-10	0.	0.	2.37E-08	1.77E-07	0.	0.	1.18E-07	2.07E-09	9.53E-08	1.25E-08	8.91E-07	8.91E-07	8.91E-07	8.91E-07
77	3.10 2.77E-10	0.	0.	1.24E-08	7.85E-07	0.	0.	1.19E-07	2.17E-09	9.74E-08	1.28E-08	7.71E-07	7.71E-07	7.71E-07	7.71E-07
78	3.00 2.27E-10	0.	0.	7.30E-09	5.86E-07	0.	0.	1.19E-07	2.27E-09	9.95E-08	1.31E-08	6.51E-07	6.51E-07	6.51E-07	6.51E-07
79	2.90 1.71E-10	0.	0.	3.33E-09	1.58E-07	0.	0.	1.20E-07	2.37E-09	1.01E-08	1.34E-08	5.31E-07	5.31E-07	5.31E-07	5.31E-07
80	2.80 1.66E-10	0.	0.	1.52E-09	3.86E-07	0.	0.	1.20E-07	2.47E-09	1.03E-08	1.37E-08	4.11E-07	4.11E-07	4.11E-07	4.11E-07
81	2.70 9.75E-11	0.	0.	7.79E-10	3.71E-08	0.	0.	1.21E-07	2.57E-09	1.05E-08	1.40E-08	2.91E-07	2.91E-07	2.91E-07	2.91E-07
82	2.60 3.61E-11	0.	0.	1.07E-10	2.36E-08	0.	0.	1.21E-07	2.67E-09	1.07E-08	1.43E-08	1.71E-07	1.71E-07	1.71E-07	1.71E-07
83	2.50 2.34E-12	0.	0.	3.08E-08	5.83E-12	0.	0.	1.22E-07	2.77E-09	1.09E-08	1.46E-08	5.1E-07	5.1E-07	5.1E-07	5.1E-07
84	2.40 0.	0.	0.	0.	0.	0.	0.	1.22E-07	2.87E-09	1.11E-08	1.49E-08	3.91E-07	3.91E-07	3.91E-07	3.91E-07
85	2.30 0.	0.	0.	0.	0.	0.	0.	1.23E-07	2.97E-09	1.13E-08	1.52E-08	2.71E-07	2.71E-07	2.71E-07	2.71E-07
86	2.20 0.	0.	0.	0.	0.	0.	0.	1.23E-07	3.07E-09	1.15E-08	1.55E-08	1.51E-07	1.51E-07	1.51E-07	1.51E-07
87	2.10 0.	0.	0.	0.	0.	0.	0.	1.24E-07	3.17E-09	1.17E-08	1.58E-08	3.1E-07	3.1E-07	3.1E-07	3.1E-07
88	2.00 0.	0.	0.	0.	0.	0.	0.	1.24E-07	3.27E-09	1.19E-08	1.61E-08	2.91E-07	2.91E-07	2.91E-07	2.91E-07
89	1.90 0.	0.	0.	0.	0.	0.	0.	1.25E-07	3.37E-09	1.21E-08	1.64E-08	2.71E-07	2.71E-07	2.71E-07	2.71E-07
90	1.80 0.	0.	0.	0.	0.	0.	0.	1.25E-07	3.47E-09	1.23E-08	1.67E-08	2.51E-07	2.51E-07	2.51E-07	2.51E-07
91	1.70 0.	0.	0.	0.	0.	0.	0.	1.26E-07	3.57E-09	1.25E-08	1.70E-08	2.31E-07	2.31E-07	2.31E-07	2.31E-07
92	1.60 0.	0.	0.	0.	0.	0.	0.	1.26E-07	3.67E-09	1.27E-08	1.73E-08	2.11E-07	2.11E-07	2.11E-07	2.11E-07
93	1.50 0.	0.	0.	0.	0.	0.	0.	1.27E-07	3.77E-09	1.29E-08	1.76E-08	1.91E-07	1.91E-07	1.91E-07	1.91E-07
94	1.40 0.	0.	0.	0.	0.	0.	0.	1.27E-07	3.87E-09	1.31E-08	1.79E-08	1.71E-07	1.71E-07	1.71E-07	1.71E-07
95	1.30 0.	0.	0.	0.	0.	0.	0.	1.28E-07	3.97E-09	1.33E-08	1.82E-08	1.51E-07	1.51E-07	1.51E-07	1.51E-07
96	1.20 0.	0.	0.	0.	0.	0.	0.	1.28E-07	4.07E-09	1.35E-08	1.85E-08	1.31E-07	1.31E-07	1.31E-07	1.31E-07
97	1.10 0.	0.	0.	0.	0.	0.	0.	1.29E-07	4.17E-09	1.37E-08	1.88E-08	1.11E-07	1.11E-07	1.11E-07	1.11E-07
98	1.00 0.	0.	0.	0.	0.	0.	0.	1.29E-07	4.27E-09	1.39E-08	1.91E-08	9.1E-07	9.1E-07	9.1E-07	9.1E-07
99	0.90 0.	0.	0.	0.	0.	0.	0.	1.30E-07	4.37E-09	1.41E-08	1.94E-08	7.9E-07	7.9E-07	7.9E-07	7.9E-07
100	0.80 0.	0.	0.	0.	0.	0.	0.	1.30E-07	4.47E-09	1.43E-08	1.97E-08	6.7E-07	6.7E-07	6.7E-07	6.7E-07
101	0.70 0.	0.	0.	0.	0.	0.	0.	1.31E-07	4.57E-09	1.45E-08	2.00E-08	5.5E-07	5.5E-07	5.5E-07	5.5E-07
102	0.60 0.	0.	0.	0.	0.	0.	0.	1.31E-07	4.67E-09	1.47E-08	2.03E-08	4.3E-07	4.3E-07	4.3E-07	4.3E-07

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		8000.		DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)		U- PHOTO-DET (IONS)		N P.E.		U P.E.		TOTAL AIR	
PHOTO-DET ENERGY BANDS	Q2 S-R	Q2 S-R	Q2 S-R	Q2 S-R	Q2 S-R	Q2 S-R	Q2 S-R	Q2 S-R	Q2 S-R	Q2 S-R	Q2 S-R	Q2 S-R	Q2 S-R
NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1
1 10.70 0.	3.21E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.	2.67E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.	2.56E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.	2.24E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.	1.78E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.	1.74E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.	1.54E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.	1.20E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	1.20E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	1.03E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	7.98E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	8.53E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	6.45E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	4.85E-10	5.60E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	5.51E-10	5.50E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	6.18E-10	3.96E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	7.47E-10	4.07E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	8.87E-10	3.33E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	1.03E-09	2.81E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	1.07E-09	2.64E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	1.03E-09	2.01E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	9.92E-10	2.03E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	9.62E-10	1.56E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	9.39E-10	1.49E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	9.17E-10	1.12E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	8.89E-10	1.09E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	8.58E-10	8.34E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	8.28E-10	7.98E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	7.92E-10	6.16E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	7.56E-10	6.04E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	7.20E-10	4.78E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.	6.84E-10	4.21E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	6.48E-10	3.54E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	6.11E-10	2.94E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	5.75E-10	2.56E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	5.38E-10	2.11E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	5.00E-10	1.87E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.	4.67E-10	1.57E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.	4.36E-10	1.32E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.	4.07E-10	1.16E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.	3.80E-10	9.22E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.	3.54E-10	7.52E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.	3.29E-10	5.32E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.	3.05E-10	3.11E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.	2.81E-10	1.62E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.	2.57E-10	7.58E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.	2.33E-10	3.05E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.	2.09E-10	7.02E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.	1.85E-10	4.96E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.	1.61E-10	1.21E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.	1.37E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		FREE-FREE		TOTAL AIR	
ENERGY BANDS		1ST POS.		2ND POS.		1ST NEG.		2ND NEG.	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		8000.		DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)		O- PHOTO-DET (IONS)		FREE-FREE N P.E.		TOTAL AIR	
PHOTOV U2 S-R	U2 S-R	N2 B-H	NO BETA	NO GAMMA	NO	NO	NO	NO	NO	NO	NO
ENERGY BANDS	COAT.	NO. 1									
E.V.											
1 10.70 0.	0.	2.81E-09	0.	0.	0.	0.	0.	8.57E-11	6.01E-13	1.95E-09	4.82E-10
2 10.60 0.	0.	2.34E-09	0.	0.	0.	0.	0.	8.58E-11	6.18E-13	1.96E-09	4.82E-10
3 10.50 0.	0.	2.24E-09	0.	0.	0.	0.	0.	8.60E-11	6.36E-13	1.97E-09	4.83E-10
4 10.40 0.	0.	1.96E-09	0.	0.	0.	0.	0.	8.61E-11	6.54E-13	1.98E-09	4.83E-10
5 10.30 0.	0.	1.56E-09	0.	0.	0.	0.	0.	8.62E-11	6.74E-13	1.99E-09	4.83E-10
6 10.20 0.	0.	1.52E-09	0.	0.	0.	0.	0.	8.63E-11	6.94E-13	1.99E-09	4.84E-10
7 10.10 0.	0.	1.35E-09	0.	0.	0.	0.	0.	8.64E-11	7.15E-13	2.00E-09	4.84E-10
8 10.00 0.	0.	1.05E-09	0.	0.	0.	0.	0.	8.65E-11	7.37E-13	2.00E-09	4.84E-10
9 9.90 0.	0.	1.05E-09	0.	0.	0.	0.	0.	8.67E-11	7.59E-13	2.01E-09	4.85E-10
10 9.80 0.	0.	9.06E-10	0.	0.	0.	0.	0.	8.68E-11	7.83E-13	2.01E-09	4.85E-10
11 9.70 0.	0.	6.99E-10	0.	0.	0.	0.	0.	8.70E-11	8.08E-13	2.02E-09	4.85E-10
12 9.60 0.	0.	7.47E-10	0.	0.	0.	0.	0.	8.72E-11	8.33E-13	2.02E-09	4.85E-10
13 9.50 0.	3.75E-12	5.65E-10	0.	0.	0.	0.	0.	8.73E-11	8.60E-13	2.03E-09	4.85E-10
14 9.40 0.	4.35E-12	4.91E-10	0.	0.	0.	0.	0.	8.76E-11	8.88E-13	2.03E-09	4.86E-10
15 9.30 0.	4.95E-12	4.90E-10	0.	0.	0.	0.	0.	8.80E-11	9.17E-13	2.03E-09	4.86E-10
16 9.20 0.	5.55E-12	3.47E-10	0.	0.	0.	0.	0.	8.83E-11	9.47E-13	2.03E-09	4.86E-10
17 9.10 0.	6.70E-12	3.56E-10	0.	0.	0.	0.	0.	8.86E-11	9.79E-13	2.03E-09	4.87E-10
18 9.00 0.	7.97E-12	2.91E-10	0.	0.	0.	0.	0.	8.89E-11	1.01E-12	2.03E-09	4.87E-10
19 8.90 0.	9.23E-12	2.46E-10	0.	0.	0.	0.	0.	8.92E-11	1.05E-12	2.03E-09	4.87E-10
20 8.80 0.	9.59E-12	2.31E-10	0.	0.	0.	0.	0.	8.95E-11	1.08E-12	2.03E-09	4.87E-10
21 8.70 0.	9.25E-12	1.76E-10	0.	0.	0.	0.	0.	8.99E-11	1.12E-12	2.03E-09	4.88E-10
22 8.60 0.	8.91E-12	1.79E-10	0.	0.	0.	0.	0.	9.02E-11	1.16E-12	2.03E-09	4.88E-10
23 8.50 0.	8.64E-12	1.37E-10	0.	0.	0.	0.	0.	9.05E-11	1.20E-12	2.03E-09	4.88E-10
24 8.40 0.	8.44E-12	1.31E-10	0.	0.	0.	0.	0.	9.10E-11	1.25E-12	2.03E-09	4.89E-10
25 8.30 0.	8.24E-12	9.80E-11	0.	0.	0.	0.	0.	9.14E-11	1.29E-12	2.03E-09	4.91E-10
26 8.20 0.	7.99E-12	9.50E-11	0.	0.	0.	0.	0.	9.19E-11	1.34E-12	2.03E-09	4.96E-10
27 8.10 0.	7.71E-12	7.30E-11	0.	0.	0.	0.	0.	9.24E-11	1.39E-12	2.03E-09	5.02E-10
28 8.00 0.	7.43E-12	6.99E-11	0.	0.	0.	0.	0.	9.29E-11	1.44E-12	2.03E-09	5.07E-10
29 7.90 0.	7.11E-12	5.39E-11	0.	0.	0.	0.	0.	9.34E-11	1.50E-12	2.03E-09	5.13E-10
30 7.80 0.	6.79E-12	5.29E-11	0.	0.	0.	0.	0.	9.38E-11	1.56E-12	2.03E-09	5.18E-10
31 7.70 0.	6.46E-12	4.18E-11	0.	0.	0.	0.	0.	9.43E-11	1.62E-12	2.03E-09	5.24E-10
32 7.60 0.	6.14E-12	3.69E-11	0.	0.	0.	0.	0.	9.48E-11	1.68E-12	2.03E-09	5.29E-10
33 7.50 0.	5.81E-12	3.10E-11	0.	0.	0.	0.	0.	9.53E-11	1.75E-12	2.03E-09	5.35E-10
34 7.40 0.	5.49E-12	2.58E-11	0.	0.	0.	0.	0.	9.58E-11	1.82E-12	2.03E-09	5.40E-10
35 7.30 0.	5.16E-12	2.24E-11	0.	0.	0.	0.	0.	9.63E-11	1.90E-12	2.03E-09	5.46E-10
36 7.20 0.	4.83E-12	1.85E-11	0.	0.	0.	0.	0.	9.68E-11	1.98E-12	2.03E-09	5.51E-10
37 7.10 0.	4.49E-12	1.64E-11	0.	0.	0.	0.	0.	9.76E-11	2.07E-12	2.03E-09	5.57E-10
38 7.00 0.	4.16E-12	1.37E-11	0.	0.	0.	0.	0.	9.84E-11	2.16E-12	2.03E-09	5.62E-10
39 6.90 0.	3.83E-12	1.16E-11	0.	0.	0.	0.	0.	9.92E-11	2.25E-12	2.03E-09	5.68E-10
40 6.80 0.	3.50E-12	1.01E-11	0.	0.	0.	0.	0.	1.00E-10	2.35E-12	2.03E-09	5.73E-10
41 6.70 0.	3.17E-12	8.07E-12	0.	0.	0.	0.	0.	1.01E-10	2.46E-12	2.03E-09	5.79E-10
42 6.60 0.	2.84E-12	6.58E-12	0.	0.	0.	0.	0.	1.02E-10	2.57E-12	2.03E-09	5.85E-10
43 6.50 0.	2.51E-12	5.09E-12	0.	0.	0.	0.	0.	1.02E-10	2.70E-12	2.03E-09	5.91E-10
44 6.40 0.	2.18E-12	4.66E-12	0.	0.	0.	0.	0.	1.03E-10	2.82E-12	2.03E-09	5.97E-10
45 6.30 0.	1.85E-12	4.23E-12	0.	0.	0.	0.	0.	1.04E-10	2.96E-12	2.03E-09	6.05E-10
46 6.20 0.	1.52E-12	3.80E-12	0.	0.	0.	0.	0.	1.05E-10	3.11E-12	2.03E-09	6.17E-10
47 6.10 0.	1.19E-12	3.37E-12	0.	0.	0.	0.	0.	1.06E-10	3.26E-12	2.03E-09	6.29E-10
48 6.00 0.	9.50E-13	2.94E-12	0.	0.	0.	0.	0.	1.06E-10	3.43E-12	2.03E-09	6.40E-10
49 5.90 0.	8.50E-13	2.51E-12	0.	0.	0.	0.	0.	1.06E-10	3.61E-12	2.03E-09	6.52E-10
50 5.80 0.	7.50E-13	2.08E-12	0.	0.	0.	0.	0.	1.05E-10	3.80E-12	2.03E-09	6.64E-10
51 5.70 0.	6.50E-13	1.65E-12	0.	0.	0.	0.	0.	9.84E-11	4.00E-12	2.03E-09	6.76E-10

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY		TEMPERATURE (DEGREES K)		800C.		DENSITY (GM/CC) 1.293E-08 (1.0E-05 NORMAL)		TOTAL AIR	
E	P	N2	N2	N2	N2	N2	N2	N2	N2
52	5.60	3.45E-21	0.	0.	2.93E-12	2.15E-11	0.	0.	9.15E-11
53	5.50	0.	0.	0.	3.64E-12	2.14E-11	0.	0.	9.20E-11
54	5.40	0.	0.	0.	2.98E-12	1.27E-11	0.	0.	9.25E-11
55	5.30	0.	0.	0.	3.07E-12	2.03E-11	0.	0.	9.31E-11
56	5.20	0.	0.	0.	3.13E-12	1.06E-11	0.	0.	9.37E-11
57	5.10	0.	0.	0.	2.99E-12	1.48E-11	0.	0.	9.45E-11
58	5.00	0.	0.	0.	2.56E-12	1.25E-11	0.	0.	9.53E-11
59	4.90	0.	0.	0.	2.70E-12	1.18E-11	0.	0.	9.61E-11
60	4.80	0.	0.	0.	2.81E-12	1.08E-11	0.	0.	9.68E-11
61	4.70	0.	0.	0.	2.61E-12	8.68E-12	0.	0.	9.76E-11
62	4.60	0.	0.	0.	2.56E-12	8.27E-12	0.	0.	9.84E-11
63	4.50	0.	0.	0.	2.15E-12	5.60E-12	0.	0.	9.92E-11
64	4.40	0.	0.	0.	2.07E-12	4.30E-12	0.	0.	1.00E-10
65	4.30	0.	0.	0.	1.82E-12	2.28E-12	0.	0.	1.01E-10
66	4.20	0.	0.	0.	1.85E-12	1.92E-12	0.	0.	1.02E-10
67	4.10	0.	0.	0.	1.66E-12	4.80E-13	0.	0.	1.02E-10
68	4.00	0.	0.	0.	1.50E-12	3.63E-13	0.	0.	1.02E-10
69	3.90	0.	0.	0.	1.24E-12	1.29E-12	0.	0.	1.02E-10
70	3.80	0.	0.	0.	9.24E-12	1.29E-12	0.	0.	1.02E-10
71	3.70	0.	0.	0.	1.37E-11	7.85E-11	0.	0.	1.02E-10
72	3.60	0.	0.	0.	5.97E-12	5.09E-10	0.	0.	1.02E-10
73	3.50	0.	0.	0.	1.02E-11	1.95E-09	0.	0.	1.02E-10
74	3.40	0.	0.	0.	4.39E-12	1.01E-10	0.	0.	1.02E-10
75	3.30	0.	0.	0.	5.07E-12	6.91E-10	0.	0.	1.02E-10
76	3.20	0.	0.	0.	2.58E-12	2.18E-09	0.	0.	1.02E-10
77	3.10	0.	0.	0.	2.02E-12	1.58E-10	0.	0.	1.02E-10
78	3.00	0.	0.	0.	1.06E-12	7.03E-10	0.	0.	1.02E-10
79	2.90	0.	0.	0.	6.25E-13	5.25E-10	0.	0.	1.02E-10
80	2.80	0.	0.	0.	2.85E-13	1.41E-10	0.	0.	1.02E-10
81	2.70	0.	0.	0.	1.30E-13	3.46E-10	0.	0.	1.02E-10
82	2.60	0.	0.	0.	6.66E-14	3.32E-11	0.	0.	1.02E-10
83	2.50	0.	0.	0.	9.13E-15	2.12E-11	0.	0.	1.02E-10
84	2.40	0.	0.	0.	6.12E-13	2.76E-11	0.	0.	1.02E-10
85	2.30	0.	0.	0.	3.25E-12	0.	0.	0.	1.02E-10
86	2.20	0.	0.	0.	6.34E-12	0.	0.	0.	1.02E-10
87	2.10	0.	0.	0.	1.03E-11	0.	0.	0.	1.02E-10
88	2.00	0.	0.	0.	1.54E-11	0.	0.	0.	1.02E-10
89	1.90	0.	0.	0.	3.56E-11	0.	0.	0.	1.02E-10
90	1.80	0.	0.	0.	2.93E-11	0.	0.	0.	1.02E-10
91	1.70	0.	0.	0.	3.54E-11	0.	0.	0.	1.02E-10
92	1.60	0.	0.	0.	2.44E-11	0.	0.	0.	1.02E-10
93	1.50	0.	0.	0.	3.04E-11	0.	0.	0.	1.02E-10
94	1.40	0.	0.	0.	3.36E-11	0.	0.	0.	1.02E-10
95	1.30	0.	0.	0.	2.36E-11	0.	0.	0.	1.02E-10
96	1.20	0.	0.	0.	2.53E-11	0.	0.	0.	1.02E-10
97	1.10	0.	0.	0.	1.84E-11	0.	0.	0.	1.02E-10
98	1.00	0.	0.	0.	1.45E-11	0.	0.	0.	1.02E-10
99	0.90	0.	0.	0.	6.66E-12	0.	0.	0.	1.02E-10
100	0.80	0.	0.	0.	1.82E-12	0.	0.	0.	1.02E-10
101	0.70	0.	0.	0.	7.32E-14	0.	0.	0.	1.02E-10
102	0.60	0.	0.	0.	0.	0.	0.	0.	1.02E-10

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		8000.		DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)		NU		O-		FREE-FREE		N		U		TOTAL AIR	
PHOTON ENERGY BANDS		O2 S-R		N2 H-H		NO		NO		BETA		NO		GAMMA		P.E.	
E.V.		CUNT.		NO. 1		NO		NO		NO		NO		NO		P.E.	
1	10.70	0.	0.	1.85E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	1.54E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	1.47E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	1.29E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	1.02E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	9.98E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	8.86E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	6.89E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	6.91E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	5.95E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	4.59E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	4.91E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	3.71E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	3.08E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	3.51E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	3.93E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	4.75E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	5.64E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	6.54E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	6.79E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	6.55E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	6.31E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	6.12E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	5.98E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	5.84E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	5.66E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	5.46E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	5.26E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	5.04E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	4.81E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	4.58E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	4.35E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	4.12E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	3.89E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	3.66E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	3.42E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	3.18E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	2.93E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	2.68E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	2.42E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	2.19E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	1.97E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	1.76E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	1.56E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	1.37E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	1.19E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	1.02E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	8.6E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	7.5E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	6.4E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	5.3E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC) 1.293E-09 (1.0E-06 NORMAL)				FREE-FREE				U-				N				P.E.				TOTAL AIR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
PHOTON ENERGY BANDS				N2 POS. 1ST POS. 2ND POS. N2				N2+ 1ST NEG. 2ND NEG. N2				BETA				GAMMA				VIB-ROT				NU 2				PHOTO-DET (IUNS)				FREE-FREE				N				P.E.				TOTAL AIR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
52	5.60	2.4E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)			9000.		DENSITY (GM/CC)		1.2936-02 ( 1.0E 01 NORMAL)											
PHOTON ENERGY E.V.	Q2 S-R BANDS	Q2 S-R CONT.	N2 B-H NO. 1	NO META	NO GAMMA	NO	U- PHOTO-DET (IONS)	FREE-FREE	N P.E.	0 P.E.	TOTAL AIR							
1 10.70	0.	0.	3.13E 01	0.	0.	0.	3.14E-01	2.31E-05	9.12E 00	2.18E-03	2.18E-03	4.07E 01						
2 10.60	0.	0.	2.65E 01	0.	0.	0.	3.15E-01	2.38E-05	2.32E-03	2.18E-03	2.18E-03	2.69E 01						
3 10.50	0.	0.	2.57E 01	0.	0.	0.	3.15E-01	2.45E-05	2.33E-03	2.18E-03	2.18E-03	2.60E 01						
4 10.40	0.	0.	2.29E 01	0.	0.	0.	3.16E-01	2.52E-05	2.34E-03	2.18E-03	2.18E-03	2.32E 01						
5 10.30	0.	0.	1.85E 01	0.	0.	0.	3.16E-01	2.60E-05	2.35E-03	2.18E-03	2.18E-03	1.88E 01						
6 10.20	0.	0.	1.83E 01	0.	0.	0.	3.16E-01	2.67E-05	2.35E-03	2.18E-03	2.18E-03	1.86E 01						
7 10.10	0.	0.	1.64E 01	0.	0.	0.	3.17E-01	2.75E-05	2.36E-03	2.18E-03	2.18E-03	1.67E 01						
8 10.00	0.	0.	1.31E 01	0.	0.	0.	3.17E-01	2.84E-05	2.36E-03	2.18E-03	2.18E-03	1.34E 01						
9 9.90	0.	0.	1.37E 01	0.	0.	0.	3.18E-01	2.93E-05	2.37E-03	2.18E-03	2.18E-03	1.35E 01						
10 9.80	0.	0.	1.15E 01	0.	0.	0.	3.18E-01	3.02E-05	2.38E-03	2.18E-03	2.18E-03	1.19E 01						
11 9.70	0.	0.	9.12E 00	0.	0.	0.	3.19E-01	3.11E-05	2.38E-03	2.18E-03	2.18E-03	9.44E 00						
12 9.60	0.	0.	9.76E 00	0.	0.	0.	3.20E-01	3.21E-05	2.39E-03	2.18E-03	2.18E-03	1.01E 01						
13 9.50	0.	1.18E 00	7.58E 00	0.	0.	0.	3.20E-01	3.31E-05	2.40E-03	2.18E-03	2.18E-03	9.08E 00						
14 9.40	0.	1.45E 00	6.69E 00	0.	0.	0.	3.21E-01	3.42E-05	2.40E-03	2.18E-03	2.18E-03	8.47E 00						
15 9.30	0.	1.72E 00	6.72E 00	0.	0.	0.	3.22E-01	3.53E-05	2.41E-03	2.18E-03	2.18E-03	8.76E 00						
16 9.20	0.	1.94E 00	4.92E 00	0.	0.	0.	3.24E-01	3.65E-05	2.42E-03	2.17E-03	2.17E-03	7.24E 00						
17 9.10	0.	2.38E 00	5.04E 00	0.	0.	0.	3.25E-01	3.77E-05	2.42E-03	2.17E-03	2.17E-03	7.75E 00						
18 9.00	0.	2.80E 00	4.22E 00	0.	0.	0.	3.26E-01	3.90E-05	2.42E-03	2.17E-03	2.17E-03	7.34E 00						
19 8.90	0.	3.21E 00	3.62E 00	0.	0.	0.	3.27E-01	4.03E-05	2.42E-03	2.17E-03	2.17E-03	7.16E 00						
20 8.80	0.	3.33E 00	3.44E 00	0.	0.	0.	3.28E-01	4.17E-05	2.42E-03	2.17E-03	2.17E-03	7.10E 00						
21 8.70	0.	3.21E 00	2.70E 00	0.	0.	0.	3.29E-01	4.32E-05	2.42E-03	2.17E-03	2.17E-03	6.24E 00						
22 8.60	0.	3.09E 00	2.72E 00	0.	0.	0.	3.31E-01	4.47E-05	2.42E-03	2.17E-03	2.17E-03	6.15E 00						
23 8.50	0.	3.01E 00	2.16E 00	0.	0.	0.	3.32E-01	4.63E-05	2.42E-03	2.17E-03	2.17E-03	5.50E 00						
24 8.40	0.	2.96E 00	2.07E 00	0.	0.	0.	3.33E-01	4.80E-05	2.42E-03	2.17E-03	2.17E-03	5.37E 00						
25 8.30	0.	2.72E 00	1.60E 00	0.	0.	0.	3.35E-01	4.97E-05	2.42E-03	2.18E-03	2.18E-03	4.85E 00						
26 8.20	0.	2.84E 00	1.56E 00	0.	0.	0.	3.37E-01	5.16E-05	2.42E-03	2.20E-03	2.20E-03	4.74E 00						
27 8.10	0.	2.75E 00	1.23E 00	0.	0.	0.	3.39E-01	5.35E-05	2.42E-03	2.22E-03	2.22E-03	4.32E 00						
28 8.00	0.	2.66E 00	1.19E 00	0.	0.	0.	3.40E-01	5.56E-05	2.42E-03	2.24E-03	2.24E-03	4.19E 00						
29 7.90	0.	2.57E 00	9.39E-01	0.	0.	0.	3.42E-01	5.77E-05	2.42E-03	2.27E-03	2.27E-03	3.85E 00						
30 7.80	0.	2.47E 00	9.31E-01	0.	0.	0.	3.44E-01	6.00E-05	2.42E-03	2.29E-03	2.29E-03	3.75E 00						
31 7.70	0.	2.36E 00	7.52E-01	0.	0.	0.	3.46E-01	6.24E-05	2.42E-03	2.31E-03	2.31E-03	3.47E 00						
32 7.60	0.	2.25E 00	6.74E-01	0.	0.	0.	3.47E-01	6.49E-05	2.42E-03	2.33E-03	2.33E-03	3.27E 00						
33 7.50	0.	2.14E 00	5.78E-01	0.	0.	0.	3.49E-01	6.75E-05	2.42E-03	2.35E-03	2.35E-03	3.07E 00						
34 7.40	0.	2.03E 00	4.88E-01	0.	0.	0.	3.51E-01	7.03E-05	2.42E-03	2.37E-03	2.37E-03	2.74E 00						
35 7.30	0.	1.92E 00	4.32E-01	0.	0.	0.	3.53E-01	7.32E-05	2.42E-03	2.39E-03	2.39E-03	2.60E 00						
36 7.20	0.	1.80E 00	3.63E-01	0.	0.	0.	3.55E-01	7.63E-05	2.42E-03	2.42E-03	2.42E-03	2.55E 00						
37 7.10	0.	1.68E 00	3.27E-01	0.	0.	0.	3.58E-01	7.96E-05	2.42E-03	2.44E-03	2.44E-03	2.46E 00						
38 7.00	0.	1.56E-03	2.79E-01	0.	0.	0.	3.61E-01	8.31E-05	2.42E-03	2.46E-03	2.46E-03	2.46E 00						
39 6.90	0.	1.44E-03	2.39E-01	0.	0.	0.	3.64E-01	8.68E-05	2.42E-03	2.48E-03	2.48E-03	2.48E 00						
40 6.80	0.	1.32E-03	2.14E-01	0.	0.	0.	3.67E-01	9.07E-05	2.42E-03	2.50E-03	2.50E-03	2.48E 00						
41 6.70	0.	1.20E-03	1.74E-01	0.	0.	0.	3.70E-01	9.48E-05	2.42E-03	2.52E-03	2.52E-03	2.48E 00						
42 6.60	0.	1.08E-03	1.44E-01	0.	0.	0.	3.72E-01	9.92E-05	2.42E-03	2.55E-03	2.55E-03	2.48E 00						
43 6.50	0.	9.60E-04	1.05E-01	0.	0.	0.	3.75E-01	1.04E-04	2.42E-03	2.57E-03	2.57E-03	2.48E 00						
44 6.40	0.	8.40E-04	6.34E-02	0.	0.	0.	3.78E-01	1.09E-04	2.42E-03	2.60E-03	2.60E-03	2.48E 00						
45 6.30	0.	7.20E-04	3.47E-02	0.	0.	0.	3.81E-01	1.14E-04	2.42E-03	2.63E-03	2.63E-03	2.48E 00						
46 6.20	0.	6.00E-04	1.66E-02	0.	0.	0.	3.84E-01	1.20E-04	2.42E-03	2.68E-03	2.68E-03	2.48E 00						
47 6.10	0.	4.80E-04	6.92E-03	0.	0.	0.	3.87E-01	1.26E-04	2.42E-03	2.72E-03	2.72E-03	2.48E 00						
48 6.00	0.	3.60E-04	1.62E-03	0.	0.	0.	3.90E-01	1.32E-04	2.42E-03	2.77E-03	2.77E-03	2.48E 00						
49 5.90	0.	2.40E-04	1.15E-04	0.	0.	0.	3.90E-01	1.39E-04	2.42E-03	2.82E-03	2.82E-03	2.48E 00						
50 5.80	0.	1.20E-04	2.82E-04	0.	0.	0.	3.84E-01	1.46E-04	2.42E-03	2.87E-03	2.87E-03	2.48E 00						
51 5.70	0.	0.	0.	0.	0.	0.	3.61E-01	1.54E-04	2.42E-03	2.91E-03	2.91E-03	2.48E 00						

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		9000.		DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR	
PHOTO 02 S-R	ENERGY BANDS	N2 1ST PGS.	N2 2ND PGS.	N2+ 1ST REG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	PHOTO-DET (IONS)	N	P.E.	O	P.E.
52	5.60 1.21E-09	0.	0.	0.	1.88E-01	1.33E 00	0.	0.	3.36E-01	1.63E-04	6.43E-04	2.96E-03	1.85E 00
53	5.50 0.	0.	0.	0.	2.32E-01	1.29E 00	0.	0.	3.37E-01	1.72E-04	6.51E-04	3.01E-03	1.87E 00
54	5.40 0.	0.	0.	0.	1.94E-01	8.26E-01	0.	0.	3.39E-01	1.81E-04	6.60E-04	3.06E-03	1.36E 00
55	5.30 0.	0.	0.	0.	1.99E-01	1.25E 00	0.	0.	3.41E-01	1.92E-04	6.69E-04	3.12E-03	1.80E 00
56	5.20 0.	0.	0.	0.	2.06E-01	7.00E-01	0.	0.	3.43E-01	2.03E-04	6.79E-04	3.20E-03	1.25E 00
57	5.10 0.	0.	0.	0.	1.98E-01	9.64E-01	0.	0.	3.46E-01	2.15E-04	6.96E-04	3.27E-03	1.51E 00
58	5.00 1.44E-02	0.	0.	0.	1.73E-01	8.27E-01	0.	0.	3.49E-01	2.29E-04	7.15E-04	3.35E-03	1.37E 00
59	4.90 3.27E-02	0.	0.	0.	1.84E-01	8.11E-01	0.	0.	3.52E-01	2.43E-04	7.34E-04	3.42E-03	1.38E 00
60	4.80 5.51E-02	0.	0.	0.	1.93E-01	7.44E-01	0.	0.	3.55E-01	2.59E-04	7.53E-04	3.50E-03	1.35E 00
61	4.70 6.84E-02	0.	0.	0.	1.82E-01	6.18E-01	0.	0.	3.58E-01	2.76E-04	7.71E-04	3.58E-03	1.23E 00
62	4.60 8.77E-02	0.	0.	0.	1.80E-01	5.80E-01	0.	0.	3.61E-01	2.94E-04	7.94E-04	3.67E-03	1.21E 00
63	4.50 8.51E-02	0.	8.01E-03	0.	1.54E-01	4.06E-01	0.	0.	3.64E-01	3.14E-04	8.22E-04	3.76E-03	1.02E 00
64	4.40 8.54E-02	0.	3.01E-02	0.	1.49E-01	3.03E-01	0.	0.	3.67E-01	3.36E-04	8.49E-04	3.85E-03	9.40E-01
65	4.30 7.53E-02	0.	6.95E-02	0.	1.33E-01	1.68E-01	0.	0.	3.70E-01	3.60E-04	8.77E-04	3.94E-03	8.21E-01
66	4.20 6.77E-02	0.	2.97E-01	0.	1.37E-01	1.36E-01	0.	0.	3.72E-01	3.87E-04	9.06E-04	4.03E-03	1.01E 00
67	4.10 5.97E-02	0.	8.61E-02	0.	1.25E-01	3.46E-02	0.	0.	3.74E-01	4.16E-04	9.34E-04	4.11E-03	6.85E-01
68	4.00 5.27E-02	0.	4.14E-01	0.	1.15E-01	2.64E-02	0.	0.	3.75E-01	4.48E-04	9.63E-04	4.19E-03	9.85E-01
69	3.90 4.13E-02	0.	1.84E-01	0.	9.66E-02	1.17E-02	0.	0.	3.74E-01	4.88E-04	9.63E-04	4.27E-03	7.10E-01
70	3.80 4.33E-02	0.	2.51E-01	0.	1.02E-01	0.	0.	0.	3.72E-01	5.23E-04	7.74E-04	4.35E-03	7.78E-01
71	3.70 3.55E-02	0.	3.42E-01	0.	1.71E-03	0.	0.	0.	3.67E-01	5.67E-04	5.96E-04	4.43E-03	8.24E-01
72	3.60 3.04E-02	0.	1.66E-01	0.	1.11E-02	8.37E-02	0.	0.	3.43E-01	6.16E-04	6.44E-04	4.51E-03	6.37E-01
73	3.50 2.67E-02	0.	2.68E-01	0.	3.71E-02	5.95E-02	0.	0.	3.14E-01	6.70E-04	6.10E-04	4.59E-03	7.06E-01
74	3.40 2.20E-02	0.	1.26E-01	0.	2.39E-03	6.46E-02	0.	0.	1.81E-01	7.32E-04	6.89E-04	4.67E-03	3.99E-01
75	3.30 1.73E-02	0.	1.40E-01	0.	1.45E-02	4.66E-02	0.	0.	1.82E-01	8.01E-04	7.69E-04	4.75E-03	4.03E-01
76	3.20 1.41E-02	0.	7.59E-02	0.	4.02E-02	4.72E-02	0.	0.	1.82E-01	8.78E-04	8.50E-04	4.83E-03	3.62E-01
77	3.10 1.21E-02	0.	5.87E-02	0.	3.74E-03	4.13E-02	0.	0.	1.82E-01	9.67E-04	9.32E-04	4.91E-03	3.02E-01
78	3.00 1.04E-02	0.	3.21E-02	0.	1.46E-02	3.60E-02	0.	0.	1.83E-01	1.07E-03	1.01E-03	5.00E-03	2.79E-01
79	2.90 8.08E-03	0.	1.90E-02	0.	1.01E-02	2.42E-02	0.	0.	1.83E-01	1.18E-03	1.10E-03	5.08E-03	2.48E-01
80	2.80 7.96E-03	0.	8.83E-03	0.	1.01E-02	1.43E-02	0.	0.	1.83E-01	1.31E-03	1.19E-03	5.16E-03	2.22E-01
81	2.70 4.56E-03	0.	4.04E-03	0.	7.15E-03	6.68E-03	0.	0.	1.83E-01	1.47E-03	1.28E-03	5.24E-03	2.10E-01
82	2.60 1.85E-03	0.	2.06E-03	0.	6.72E-04	2.55E-03	0.	0.	1.83E-01	1.64E-03	1.38E-03	5.32E-03	1.95E-01
83	2.50 1.27E-04	0.	2.70E-04	0.	4.81E-04	5.57E-04	0.	0.	1.83E-01	1.85E-03	1.55E-03	5.40E-03	1.89E-01
84	2.40 0.	0.	1.67E-02	0.	5.71E-04	5.53E-05	0.	0.	1.83E-01	2.09E-03	1.77E-03	5.48E-03	2.05E-01
85	2.30 0.	0.	7.90E-02	0.	0.	0.	0.	0.	1.82E-01	2.38E-03	1.07E-03	5.56E-03	2.65E-01
86	2.20 0.	0.	1.63E-01	0.	0.	0.	0.	0.	1.81E-01	2.72E-03	1.27E-03	5.64E-03	3.50E-01
87	2.10 0.	0.	2.41E-01	0.	0.	0.	0.	0.	1.80E-01	3.14E-03	1.48E-03	5.72E-03	4.27E-01
88	2.00 0.	0.	3.84E-01	0.	0.	0.	0.	0.	1.75E-01	3.63E-03	1.69E-03	5.80E-03	5.65E-01
89	1.90 0.	0.	7.88E-01	0.	0.	0.	0.	0.	1.68E-01	4.24E-03	1.90E-03	5.88E-03	9.64E-01
90	1.80 0.	0.	6.43E-01	0.	0.	0.	0.	0.	1.61E-01	5.00E-03	2.23E-03	5.96E-03	8.13E-01
91	1.70 0.	0.	7.79E-01	0.	0.	0.	0.	0.	1.51E-01	5.94E-03	2.64E-03	6.04E-03	9.42E-01
92	1.60 0.	0.	5.41E-01	0.	0.	0.	0.	0.	1.28E-01	7.14E-03	3.04E-03	6.12E-03	7.43E-01
93	1.50 0.	0.	6.69E-01	0.	0.	0.	0.	0.	5.82E-02	8.68E-03	3.76E-03	6.20E-03	7.43E-01
94	1.40 0.	0.	7.17E-01	0.	0.	0.	0.	0.	0.	1.07E-02	4.52E-03	6.28E-03	7.35E-01
95	1.30 0.	0.	5.22E-01	0.	0.	0.	0.	0.	0.	1.34E-02	5.43E-03	6.36E-03	5.46E-01
96	1.20 0.	0.	5.37E-01	0.	0.	0.	0.	0.	0.	1.71E-02	6.40E-03	6.44E-03	5.63E-01
97	1.10 0.	0.	4.33E-01	0.	0.	0.	0.	0.	0.	2.23E-02	7.26E-03	6.52E-03	4.46E-01
98	1.00 0.	0.	4.04E-01	0.	0.	0.	0.	0.	0.	2.98E-02	8.16E-03	6.60E-03	4.47E-01
99	0.90 0.	0.	3.24E-01	0.	0.	0.	0.	0.	0.	4.10E-02	9.16E-03	6.68E-03	3.80E-01
100	0.80 0.	0.	1.50E-01	0.	0.	0.	0.	0.	0.	5.87E-02	9.36E-03	6.76E-03	2.28E-01
101	0.70 0.	0.	4.00E-02	0.	0.	0.	0.	0.	0.	8.87E-02	1.04E-02	6.84E-03	1.49E-01
102	0.60 0.	0.	2.19E-03	0.	0.	0.	0.	0.	0.	1.42E-01	1.16E-02	6.92E-03	1.71E-01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		9000.		DENSITY (GM/CC) 1.293E-03 (1.0E 00 NORMAL)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR	
PHOTO 4	02 S-R	02 S-R	02 S-R	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
ENERGY	PANDS	CONV.	NO. 1	BETA	GAMMA	2	PHOTO-DET (IONS)	PHOTO-DET (IONS)	PHOTO-DET (IONS)	PHOTO-DET (IONS)	PHOTO-DET (IONS)	PHOTO-DET (IONS)	PHOTO-DET (IONS)
E.V.													
1	1.70	0.	2.04E 00	0.	0.	0.	7.89E-03	1.06E-06	2.33E 00	2.45E-04	2.45E-04	4.37E 00	00
2	1.60	0.	1.73E 00	0.	0.	0.	7.90E-03	1.09E-06	5.92E-04	2.45E-04	2.45E-04	1.74E 00	00
3	1.50	0.	1.67E 00	0.	0.	0.	7.91E-03	1.12E-06	5.95E-04	2.45E-04	2.45E-04	1.68E 00	00
4	1.40	0.	1.49E 00	0.	0.	0.	7.92E-03	1.15E-06	5.97E-04	2.45E-04	2.45E-04	1.50E 00	00
5	1.30	0.	1.21E 00	0.	0.	0.	7.93E-03	1.19E-06	5.99E-04	2.45E-04	2.45E-04	1.22E 00	00
6	1.20	0.	1.19E 00	0.	0.	0.	7.94E-03	1.22E-06	6.00E-04	2.45E-04	2.45E-04	1.20E 00	00
7	1.10	0.	1.07E 00	0.	0.	0.	7.95E-03	1.26E-06	6.02E-04	2.45E-04	2.45E-04	1.08E 00	00
8	1.00	0.	8.52E-01	0.	0.	0.	7.96E-03	1.30E-06	6.03E-04	2.45E-04	2.45E-04	8.61E-01	01
9	9.90	0.	8.58E-01	0.	0.	0.	7.98E-03	1.34E-06	6.05E-04	2.45E-04	2.45E-04	8.67E-01	01
10	9.80	0.	7.52E-01	0.	0.	0.	7.99E-03	1.38E-06	6.06E-04	2.45E-04	2.45E-04	7.61E-01	01
11	9.70	0.	5.94E-01	0.	0.	0.	8.01E-03	1.42E-06	6.08E-04	2.45E-04	2.45E-04	6.03E-01	01
12	9.60	0.	6.36E-01	0.	0.	0.	8.02E-03	1.47E-06	6.09E-04	2.45E-04	2.45E-04	6.45E-01	01
13	9.50	0.	1.49E-02	0.	0.	0.	8.04E-03	1.52E-06	6.11E-04	2.45E-04	2.45E-04	5.18E-01	01
14	9.40	0.	1.83E-02	0.	0.	0.	8.07E-03	1.57E-06	6.13E-04	2.45E-04	2.45E-04	4.63E-01	01
15	9.30	0.	2.17E-02	0.	0.	0.	8.10E-03	1.62E-06	6.14E-04	2.45E-04	2.45E-04	4.68E-01	01
16	9.20	0.	2.52E-02	0.	0.	0.	8.13E-03	1.67E-06	6.16E-04	2.45E-04	2.45E-04	3.55E-01	01
17	9.10	0.	3.01E-02	0.	0.	0.	8.15E-03	1.73E-06	1.63E-04	2.45E-04	2.45E-04	3.67E-01	01
18	9.00	0.	3.53E-02	0.	0.	0.	8.18E-03	1.78E-06	1.63E-04	2.45E-04	2.45E-04	3.19E-01	01
19	8.90	0.	4.06E-02	0.	0.	0.	8.21E-03	1.85E-06	1.63E-04	2.45E-04	2.45E-04	2.85E-01	01
20	8.80	0.	4.70E-02	0.	0.	0.	8.24E-03	1.91E-06	1.62E-04	2.45E-04	2.45E-04	2.75E-01	01
21	8.70	0.	4.05E-02	0.	0.	0.	8.27E-03	1.98E-06	1.62E-04	2.45E-04	2.45E-04	2.25E-01	01
22	8.60	0.	3.91E-02	0.	0.	0.	8.30E-03	2.05E-06	1.61E-04	2.45E-04	2.45E-04	2.25E-01	01
23	8.50	0.	3.80E-02	0.	0.	0.	8.33E-03	2.12E-06	1.61E-04	2.44E-04	2.44E-04	1.87E-01	01
24	8.40	0.	3.74E-02	0.	0.	0.	8.37E-03	2.20E-06	1.60E-04	2.44E-04	2.44E-04	1.81E-01	01
25	8.30	0.	3.68E-02	0.	0.	0.	8.42E-03	2.28E-06	1.60E-04	2.45E-04	2.45E-04	1.50E-01	01
26	8.20	0.	3.59E-02	0.	0.	0.	8.46E-03	2.36E-06	1.60E-04	2.48E-04	2.48E-04	1.47E-01	01
27	8.10	0.	3.48E-02	0.	0.	0.	8.51E-03	2.45E-06	1.59E-04	2.50E-04	2.50E-04	1.24E-01	01
28	8.00	0.	3.36E-02	0.	0.	0.	8.55E-03	2.54E-06	1.59E-04	2.52E-04	2.52E-04	1.20E-01	01
29	7.90	0.	3.24E-02	0.	0.	0.	8.59E-03	2.64E-06	1.58E-04	2.55E-04	2.55E-04	1.03E-01	01
30	7.80	0.	3.12E-02	0.	0.	0.	8.64E-03	2.75E-06	1.58E-04	2.57E-04	2.57E-04	1.01E-01	01
31	7.70	0.	2.99E-02	0.	0.	0.	8.68E-03	2.85E-06	1.58E-04	2.60E-04	2.60E-04	8.80E-02	02
32	7.60	0.	2.84E-02	0.	0.	0.	8.72E-03	2.97E-06	1.57E-04	2.62E-04	2.62E-04	8.15E-02	02
33	7.50	0.	2.70E-02	0.	0.	0.	8.77E-03	3.09E-06	1.57E-04	2.65E-04	2.65E-04	7.38E-02	02
34	7.40	0.	2.56E-02	0.	0.	0.	8.82E-03	3.22E-06	1.57E-04	2.67E-04	2.67E-04	6.68E-02	02
35	7.30	0.	2.43E-02	0.	0.	0.	8.87E-03	3.35E-06	1.56E-04	2.69E-04	2.69E-04	6.25E-02	02
36	7.20	0.	2.28E-02	0.	0.	0.	8.91E-03	3.49E-06	1.56E-04	2.72E-04	2.72E-04	5.78E-02	02
37	7.10	0.	2.12E-02	0.	0.	0.	8.99E-03	3.64E-06	1.56E-04	2.74E-04	2.74E-04	5.70E-02	02
38	7.00	0.	1.82E-02	0.	0.	0.	9.06E-03	3.80E-06	1.56E-04	2.77E-04	2.77E-04	4.29E-02	02
39	6.90	0.	1.56E-02	0.	0.	0.	9.13E-03	3.97E-06	1.55E-04	2.79E-04	2.79E-04	3.94E-02	02
40	6.80	0.	1.39E-02	0.	0.	0.	9.21E-03	4.15E-06	1.55E-04	2.81E-04	2.81E-04	5.46E-02	02
41	6.70	0.	1.13E-02	0.	0.	0.	9.28E-03	4.34E-06	1.55E-04	2.84E-04	2.84E-04	6.16E-02	02
42	6.60	0.	9.40E-03	0.	0.	0.	9.35E-03	4.54E-06	1.55E-04	2.87E-04	2.87E-04	4.16E-02	02
43	6.50	0.	6.81E-03	0.	0.	0.	9.43E-03	4.76E-06	1.55E-04	2.89E-04	2.89E-04	5.89E-02	02
44	6.40	0.	4.13E-03	0.	0.	0.	9.50E-03	4.98E-06	1.55E-04	2.92E-04	2.92E-04	6.65E-02	02
45	6.30	0.	2.23E-03	0.	0.	0.	9.57E-03	5.22E-06	1.56E-04	2.96E-04	2.96E-04	3.82E-02	02
46	6.20	0.	1.08E-03	0.	0.	0.	9.65E-03	5.48E-06	1.56E-04	3.01E-04	3.01E-04	5.16E-02	02
47	6.10	0.	4.51E-04	0.	0.	0.	9.72E-03	5.76E-06	1.57E-04	3.06E-04	3.06E-04	7.77E-02	02
48	6.00	0.	1.06E-04	0.	0.	0.	9.79E-03	6.05E-06	1.59E-04	3.12E-04	3.12E-04	3.60E-02	02
49	5.90	0.	7.51E-06	0.	0.	0.	9.79E-03	6.36E-06	1.60E-04	3.17E-04	3.17E-04	3.93E-02	02
50	5.80	0.	1.84E-07	0.	0.	0.	9.65E-03	6.70E-06	1.61E-04	3.22E-04	3.22E-04	3.94E-02	02
51	5.70	0.	3.58E-10	0.	0.	0.	9.06E-03	7.06E-06	1.63E-04	3.28E-04	3.28E-04	4.02E-02	02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY	2ND POS.	1ST POS.	TEMPERATURE (DEGREES K)	900G.	DENSITY (GM/CC)	1.293E-03 (1.0E 00 NORMAL)	FREE-FREE (TONS)	PHOTO-DET	N	P.E.	TOTAL AIR
52	5.60	1.5E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.
53	5.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
54	5.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	5.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	5.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	5.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	5.00	1.8E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	4.90	4.0E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	4.80	7.0E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	4.70	8.6E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	4.60	1.1E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.
63	4.50	1.0E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.
64	4.40	1.0E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.
65	4.30	9.5E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
66	4.20	8.5E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
67	4.10	7.5E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
68	4.00	6.6E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
69	3.90	5.2E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	3.80	5.5E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	3.70	4.4E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
72	3.60	3.8E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
73	3.50	3.3E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
74	3.40	2.8E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
75	3.30	2.1E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
76	3.20	1.7E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
77	3.10	1.5E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
78	3.00	1.3E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
79	2.90	1.0E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	2.80	1.0E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.
81	2.70	5.7E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.
82	2.60	2.3E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.
83	2.50	1.5E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.
84	2.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	02 S-R CONT.	N2 B-H NO. 1	TEMPERATURE (DEGREES K)		900C.	DENSITY (GM/CC) 1.293E-04 (1.0E-01 NORMAL)		NO 2	O- PHOTO-DET (ION.)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
			NO	GAMMA									
1	10.70	0.	0.	0.	0.	0.	0.	0.	2.21E-04	7.70E-08	1.02E-04	2.54E-05	6.20E-02
2	10.60	0.	0.	0.	0.	0.	0.	0.	2.21E-04	7.92E-08	1.03E-04	2.54E-05	5.26E-02
3	10.50	0.	0.	0.	0.	0.	0.	0.	2.22E-04	8.15E-08	1.03E-04	2.54E-05	5.09E-02
4	10.40	0.	0.	0.	0.	0.	0.	0.	2.22E-04	8.39E-08	1.04E-04	2.53E-05	4.53E-02
5	10.30	0.	0.	0.	0.	0.	0.	0.	2.22E-04	8.64E-08	1.04E-04	2.53E-05	3.68E-02
6	10.20	0.	0.	0.	0.	0.	0.	0.	2.22E-04	8.89E-08	1.04E-04	2.53E-05	3.63E-02
7	10.10	0.	0.	0.	0.	0.	0.	0.	2.23E-04	9.16E-08	1.05E-04	2.53E-05	3.27E-02
8	10.00	0.	0.	0.	0.	0.	0.	0.	2.23E-04	9.44E-08	1.05E-04	2.53E-05	2.61E-02
9	9.90	0.	0.	0.	0.	0.	0.	0.	2.23E-04	9.73E-08	1.05E-04	2.53E-05	2.63E-02
10	9.80	0.	0.	0.	0.	0.	0.	0.	2.24E-04	1.00E-07	1.05E-04	2.53E-05	2.31E-02
11	9.70	0.	0.	0.	0.	0.	0.	0.	2.24E-04	1.03E-07	1.06E-04	2.53E-05	1.83E-02
12	9.60	0.	0.	0.	0.	0.	0.	0.	2.25E-04	1.07E-07	1.06E-04	2.53E-05	1.96E-02
13	9.50	0.	0.	0.	0.	0.	0.	0.	2.25E-04	1.10E-07	1.06E-04	2.53E-05	1.54E-02
14	9.40	0.	0.	0.	0.	0.	0.	0.	2.26E-04	1.14E-07	1.07E-04	2.53E-05	1.37E-02
15	9.30	0.	0.	0.	0.	0.	0.	0.	2.27E-04	1.17E-07	1.07E-04	2.53E-05	1.38E-02
16	9.20	0.	0.	0.	0.	0.	0.	0.	2.28E-04	1.21E-07	1.08E-04	2.53E-05	1.02E-02
17	9.10	0.	0.	0.	0.	0.	0.	0.	2.28E-04	1.25E-07	1.08E-04	2.53E-05	1.05E-02
18	9.00	0.	0.	0.	0.	0.	0.	0.	2.29E-04	1.30E-07	1.08E-04	2.53E-05	8.97E-03
19	8.90	0.	0.	0.	0.	0.	0.	0.	2.30E-04	1.34E-07	1.08E-04	2.53E-05	7.86E-03
20	8.80	0.	0.	0.	0.	0.	0.	0.	2.31E-04	1.39E-07	1.08E-04	2.53E-05	7.52E-03
21	8.70	0.	0.	0.	0.	0.	0.	0.	2.32E-04	1.44E-07	1.08E-04	2.53E-05	6.03E-03
22	8.60	0.	0.	0.	0.	0.	0.	0.	2.32E-04	1.49E-07	1.08E-04	2.53E-05	6.07E-03
23	8.50	0.	0.	0.	0.	0.	0.	0.	2.33E-04	1.54E-07	1.08E-04	2.53E-05	4.94E-03
24	8.40	0.	0.	0.	0.	0.	0.	0.	2.34E-04	1.60E-07	1.08E-04	2.53E-05	4.77E-03
25	8.30	0.	0.	0.	0.	0.	0.	0.	2.36E-04	1.65E-07	1.08E-04	2.53E-05	3.83E-03
26	8.20	0.	0.	0.	0.	0.	0.	0.	2.37E-04	1.72E-07	1.08E-04	2.56E-05	3.75E-03
27	8.10	0.	0.	0.	0.	0.	0.	0.	2.38E-04	1.78E-07	1.08E-04	2.58E-05	3.09E-03
28	8.00	0.	0.	0.	0.	0.	0.	0.	2.39E-04	1.85E-07	1.08E-04	2.61E-05	3.00E-03
29	7.90	0.	0.	0.	0.	0.	0.	0.	2.41E-04	1.92E-07	1.08E-04	2.63E-05	2.49E-03
30	7.80	0.	0.	0.	0.	0.	0.	0.	2.42E-04	2.00E-07	1.08E-04	2.66E-05	2.46E-03
31	7.70	0.	0.	0.	0.	0.	0.	0.	2.43E-04	2.07E-07	1.08E-04	2.68E-05	2.10E-03
32	7.60	0.	0.	0.	0.	0.	0.	0.	2.44E-04	2.16E-07	1.08E-04	2.71E-05	1.93E-03
33	7.50	0.	0.	0.	0.	0.	0.	0.	2.46E-04	2.25E-07	1.08E-04	2.73E-05	1.73E-03
34	7.40	0.	0.	0.	0.	0.	0.	0.	2.47E-04	2.34E-07	1.08E-04	2.76E-05	1.54E-03
35	7.30	0.	0.	0.	0.	0.	0.	0.	2.48E-04	2.44E-07	1.08E-04	2.78E-05	1.43E-03
36	7.20	0.	0.	0.	0.	0.	0.	0.	2.50E-04	2.54E-07	1.08E-04	2.81E-05	1.30E-03
37	7.10	0.	0.	0.	0.	0.	0.	0.	2.52E-04	2.65E-07	1.08E-04	2.83E-05	1.27E-03
38	7.00	0.	0.	0.	0.	0.	0.	0.	2.54E-04	2.76E-07	1.08E-04	2.86E-05	1.13E-03
39	6.90	0.	0.	0.	0.	0.	0.	0.	2.56E-04	2.89E-07	1.08E-04	2.88E-05	1.04E-03
40	6.80	0.	0.	0.	0.	0.	0.	0.	2.58E-04	3.02E-07	1.08E-04	2.91E-05	1.29E-03
41	6.70	0.	0.	0.	0.	0.	0.	0.	2.60E-04	3.15E-07	1.08E-04	2.94E-05	1.39E-03
42	6.60	0.	0.	0.	0.	0.	0.	0.	2.62E-04	3.30E-07	1.08E-04	2.96E-05	1.00E-03
43	6.50	0.	0.	0.	0.	0.	0.	0.	2.64E-04	3.46E-07	1.08E-04	2.99E-05	1.29E-03
44	6.40	0.	0.	0.	0.	0.	0.	0.	2.66E-04	3.62E-07	1.08E-04	3.02E-05	1.39E-03
45	6.30	0.	0.	0.	0.	0.	0.	0.	2.68E-04	3.80E-07	1.08E-04	3.06E-05	8.59E-04
46	6.20	0.	0.	0.	0.	0.	0.	0.	2.70E-04	3.98E-07	1.08E-04	3.11E-05	1.09E-03
47	6.10	0.	0.	0.	0.	0.	0.	0.	2.72E-04	4.18E-07	1.08E-04	3.17E-05	1.55E-03
48	6.00	0.	0.	0.	0.	0.	0.	0.	2.74E-04	4.40E-07	1.08E-04	3.22E-05	7.98E-04
49	5.90	0.	0.	0.	0.	0.	0.	0.	2.76E-04	4.62E-07	1.08E-04	3.28E-05	8.57E-04
50	5.80	0.	0.	0.	0.	0.	0.	0.	2.78E-04	4.87E-07	1.08E-04	3.33E-05	8.58E-04
51	5.70	0.	0.	0.	0.	0.	0.	0.	2.80E-04	5.13E-07	1.08E-04	3.39E-05	8.67E-04

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENRGY BANDS		TEMPERATURE (DEGREES K)		9000		DENSITY (GM/CC)		1.293E-04 (1.0E-01 NORMAL)		0		0		TOTAL AIR	
1ST POS.	2ND POS.	N2	N2+	N2	BETA	NO	GAMMA	NO	VIB-ROT	NO	PHOTO-DET (IONS)	FREE-FREE (IONS)	N	P.E.	P.E.
52	5.60	1.6E-13	0.	0.	9.70E-05	6.85E-04	0.	0.	0.	0.	2.36E-04	5.41E-07	2.85E-05	3.45E-05	1.08E-03
53	5.50	0.	0.	0.	1.20E-04	6.67E-04	0.	0.	0.	0.	2.37E-04	5.71E-07	2.89E-05	3.50E-05	1.09E-03
54	5.40	0.	0.	0.	9.99E-05	4.24E-04	0.	0.	0.	0.	2.38E-04	6.03E-07	2.93E-05	3.56E-05	8.30E-04
55	5.30	0.	0.	0.	1.03E-04	6.45E-04	0.	0.	0.	0.	2.40E-04	6.38E-07	2.97E-05	3.63E-05	1.05E-03
56	5.20	0.	0.	0.	1.06E-04	3.61E-04	0.	0.	0.	0.	2.41E-04	6.76E-07	3.01E-05	3.72E-05	7.77E-04
57	5.10	0.	0.	0.	1.02E-04	4.97E-04	0.	0.	0.	0.	2.43E-04	7.16E-07	3.09E-05	3.80E-05	9.13E-04
58	5.00	1.9E-06	0.	0.	8.90E-05	4.27E-04	0.	0.	0.	0.	2.46E-04	7.61E-07	3.17E-05	3.89E-05	8.35E-04
59	4.90	4.3E-06	0.	0.	9.50E-05	4.18E-04	0.	0.	0.	0.	2.48E-04	8.08E-07	3.26E-05	3.98E-05	8.38E-04
60	4.80	7.4E-06	0.	0.	9.94E-05	3.84E-04	0.	0.	0.	0.	2.50E-04	8.61E-07	3.34E-05	4.07E-05	8.15E-04
61	4.70	9.2E-06	0.	0.	9.37E-05	3.19E-04	0.	0.	0.	0.	2.52E-04	9.17E-07	3.42E-05	4.17E-05	7.50E-04
62	4.60	1.1E-05	0.	0.	9.28E-05	2.99E-04	0.	0.	0.	0.	2.54E-04	9.78E-07	3.53E-05	4.27E-05	7.37E-04
63	4.50	1.1E-05	0.	1.58E-05	7.93E-05	2.09E-04	0.	0.	0.	0.	2.56E-04	1.04E-06	3.65E-05	4.37E-05	6.53E-04
64	4.40	1.1E-05	0.	5.94E-05	7.68E-05	1.56E-04	0.	0.	0.	0.	2.58E-04	1.12E-06	3.77E-05	4.48E-05	6.46E-04
65	4.30	1.0E-05	0.	1.37E-04	6.86E-05	8.65E-05	0.	0.	0.	0.	2.60E-04	1.20E-06	3.89E-05	4.58E-05	6.48E-04
66	4.20	9.0E-06	0.	5.85E-04	7.06E-05	7.02E-05	0.	0.	0.	0.	2.62E-04	1.29E-06	4.02E-05	4.67E-05	6.18E-04
67	4.10	8.0E-06	0.	1.70E-04	6.44E-05	1.79E-05	0.	0.	0.	0.	2.63E-04	1.38E-06	4.15E-05	4.76E-05	6.18E-04
68	4.00	7.0E-06	0.	8.16E-04	5.91E-05	1.36E-05	0.	0.	0.	0.	2.64E-04	1.49E-06	4.27E-05	4.85E-05	6.18E-04
69	3.90	5.9E-06	0.	4.93E-04	5.24E-05	6.02E-06	0.	0.	0.	0.	2.66E-04	1.61E-06	4.39E-05	4.94E-05	6.18E-04
70	3.80	5.9E-06	0.	6.74E-04	4.74E-05	0.	0.	0.	0.	0.	2.68E-04	1.74E-06	4.51E-05	5.03E-05	6.18E-04
71	3.70	4.79E-06	0.	3.28E-04	4.32E-05	0.	0.	0.	0.	0.	2.70E-04	1.89E-06	4.63E-05	5.12E-05	6.18E-04
72	3.60	4.1E-06	0.	5.27E-04	3.95E-05	0.	0.	0.	0.	0.	2.72E-04	2.05E-06	4.75E-05	5.21E-05	6.18E-04
73	3.50	3.6E-06	0.	2.48E-04	3.61E-05	0.	0.	0.	0.	0.	2.74E-04	2.23E-06	4.87E-05	5.30E-05	6.18E-04
74	3.40	3.0E-06	0.	2.76E-04	3.33E-05	0.	0.	0.	0.	0.	2.76E-04	2.43E-06	5.00E-05	5.39E-05	6.18E-04
75	3.30	2.34E-06	0.	1.50E-04	3.02E-05	0.	0.	0.	0.	0.	2.78E-04	2.66E-06	5.12E-05	5.48E-05	6.18E-04
76	3.20	1.89E-06	0.	1.16E-04	2.72E-05	0.	0.	0.	0.	0.	2.80E-04	2.92E-06	5.24E-05	5.57E-05	6.18E-04
77	3.10	1.7E-06	0.	1.6E-04	2.43E-05	0.	0.	0.	0.	0.	2.82E-04	3.22E-06	5.36E-05	5.66E-05	6.18E-04
78	3.00	1.41E-06	0.	6.32E-05	2.13E-05	0.	0.	0.	0.	0.	2.84E-04	3.55E-06	5.48E-05	5.75E-05	6.18E-04
79	2.90	1.04E-06	0.	3.74E-05	1.86E-05	0.	0.	0.	0.	0.	2.86E-04	3.93E-06	5.60E-05	5.84E-05	6.18E-04
80	2.80	1.04E-06	0.	1.74E-05	1.59E-05	0.	0.	0.	0.	0.	2.88E-04	4.37E-06	5.72E-05	5.93E-05	6.18E-04
81	2.70	6.16E-07	0.	7.95E-06	1.32E-05	0.	0.	0.	0.	0.	2.90E-04	4.88E-06	5.84E-05	6.02E-05	6.18E-04
82	2.60	2.51E-07	0.	4.07E-06	1.07E-05	0.	0.	0.	0.	0.	2.92E-04	5.46E-06	5.96E-05	6.11E-05	6.18E-04
83	2.50	1.6E-08	0.	5.31E-07	8.65E-06	0.	0.	0.	0.	0.	2.94E-04	6.15E-06	6.08E-05	6.20E-05	6.18E-04
84	2.40	0.	0.	3.28E-05	7.48E-06	0.	0.	0.	0.	0.	2.96E-04	6.96E-06	6.26E-05	6.29E-05	6.18E-04
85	2.30	0.	0.	1.56E-04	6.48E-06	0.	0.	0.	0.	0.	2.98E-04	7.92E-06	6.44E-05	6.38E-05	6.18E-04
86	2.20	0.	0.	3.22E-04	5.60E-06	0.	0.	0.	0.	0.	3.00E-04	9.06E-06	6.62E-05	6.47E-05	6.18E-04
87	2.10	0.	0.	4.75E-04	4.84E-06	0.	0.	0.	0.	0.	3.02E-04	1.04E-05	6.80E-05	6.56E-05	6.18E-04
88	2.00	0.	0.	7.57E-04	4.12E-06	0.	0.	0.	0.	0.	3.04E-04	1.21E-05	7.00E-05	6.65E-05	6.18E-04
89	1.90	0.	0.	1.55E-03	3.43E-06	0.	0.	0.	0.	0.	3.06E-04	1.41E-05	7.20E-05	6.74E-05	6.18E-04
90	1.80	0.	0.	1.27E-03	2.77E-06	0.	0.	0.	0.	0.	3.08E-04	1.66E-05	7.40E-05	6.83E-05	6.18E-04
91	1.70	0.	0.	1.53E-03	2.15E-06	0.	0.	0.	0.	0.	3.10E-04	1.98E-05	7.60E-05	6.92E-05	6.18E-04
92	1.60	0.	0.	1.07E-03	1.57E-06	0.	0.	0.	0.	0.	3.12E-04	2.37E-05	7.80E-05	7.01E-05	6.18E-04
93	1.50	0.	0.	1.32E-03	1.07E-06	0.	0.	0.	0.	0.	3.14E-04	2.89E-05	8.00E-05	7.10E-05	6.18E-04
94	1.40	0.	0.	1.41E-03	7.48E-07	0.	0.	0.	0.	0.	3.16E-04	3.56E-05	8.20E-05	7.19E-05	6.18E-04
95	1.30	0.	0.	1.03E-03	5.24E-07	0.	0.	0.	0.	0.	3.18E-04	4.46E-05	8.40E-05	7.28E-05	6.18E-04
96	1.20	0.	0.	1.06E-03	3.60E-07	0.	0.	0.	0.	0.	3.20E-04	5.69E-05	8.60E-05	7.37E-05	6.18E-04
97	1.10	0.	0.	8.52E-04	2.51E-07	0.	0.	0.	0.	0.	3.22E-04	7.20E-05	8.80E-05	7.46E-05	6.18E-04
98	1.00	0.	0.	7.96E-04	1.66E-07	0.	0.	0.	0.	0.	3.24E-04	9.06E-05	9.00E-05	7.55E-05	6.18E-04
99	0.90	0.	0.	6.38E-04	1.07E-07	0.	0.	0.	0.	0.	3.26E-04	1.14E-04	9.20E-05	7.64E-05	6.18E-04
100	0.80	0.	0.	2.76E-04	6.88E-08	0.	0.	0.	0.	0.	3.28E-04	1.44E-04	9.40E-05	7.73E-05	6.18E-04
101	0.70	0.	0.	7.88E-05	4.32E-08	0.	0.	0.	0.	0.	3.30E-04	1.80E-04	9.60E-05	7.82E-05	6.18E-04
102	0.60	0.	0.	4.32E-06	2.94E-08	0.	0.	0.	0.	0.	3.32E-04	2.24E-04	9.80E-05	7.91E-05	6.18E-04

TEMPERATURE (DEGREES K) 9700. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON	02 S-R	02 S-R	02 S-R	N2 B-H	NO	NO	NO	NO	NO	0-	FREE-FREE	N.	0	TOTAL AIR
ENERGY	BANDS	CONT.	NO. 1	NO. 1	BETA	GAMMA	BETA	GAMMA	BETA	PHOTO-DET (IUNS)	P.E.	P.E.	P.E.	P.E.
E.V.														
1	10.70	0.	0.	8.16E-04	0.	0.	0.	0.	0.	6.86E-06	7.39E-09	1.18E-05	2.54E-06	8.37E-04
2	10.60	0.	0.	6.92E-04	0.	0.	0.	0.	0.	6.87E-06	7.60E-09	1.18E-05	2.54E-06	7.13E-04
3	10.50	0.	0.	6.70E-04	0.	0.	0.	0.	0.	6.88E-06	7.82E-09	1.19E-05	2.54E-06	6.91E-04
4	10.40	0.	0.	5.95E-04	0.	0.	0.	0.	0.	6.89E-06	8.05E-09	1.20E-05	2.54E-06	6.17E-04
5	10.30	0.	0.	4.83E-04	0.	0.	0.	0.	0.	6.90E-06	8.29E-09	1.20E-05	2.54E-06	5.04E-04
6	10.20	0.	0.	4.76E-04	0.	0.	0.	0.	0.	6.91E-06	8.54E-09	1.20E-05	2.54E-06	4.97E-04
7	10.10	0.	0.	4.28E-04	0.	0.	0.	0.	0.	6.92E-06	9.07E-09	1.21E-05	2.54E-06	4.99E-04
8	10.00	0.	0.	3.41E-04	0.	0.	0.	0.	0.	6.94E-06	9.34E-09	1.21E-05	2.54E-06	3.63E-04
9	9.90	0.	0.	3.44E-04	0.	0.	0.	0.	0.	6.94E-06	9.34E-09	1.21E-05	2.54E-06	3.65E-04
10	9.80	0.	0.	3.01E-04	0.	0.	0.	0.	0.	6.95E-06	9.64E-09	1.21E-05	2.54E-06	3.23E-04
11	9.70	0.	0.	2.34E-04	0.	0.	0.	0.	0.	6.96E-06	9.94E-09	1.22E-05	2.54E-06	2.59E-04
12	9.60	0.	0.	2.55E-04	0.	0.	0.	0.	0.	6.97E-06	1.02E-08	1.22E-05	2.54E-06	2.76E-04
13	9.50	0.	0.	1.60E-06	0.	0.	0.	0.	0.	6.99E-06	1.06E-08	1.22E-05	2.53E-06	2.21E-04
14	9.40	0.	0.	1.47E-06	0.	0.	0.	0.	0.	7.01E-06	1.09E-08	1.23E-05	2.53E-06	1.98E-04
15	9.30	0.	0.	2.34E-06	0.	0.	0.	0.	0.	7.04E-06	1.13E-08	1.23E-05	2.53E-06	1.99E-04
16	9.20	0.	0.	2.71E-06	0.	0.	0.	0.	0.	7.06E-06	1.16E-08	1.23E-05	2.53E-06	1.44E-04
17	9.10	0.	0.	3.24E-06	0.	0.	0.	0.	0.	7.09E-06	1.20E-08	1.23E-05	2.53E-06	1.48E-04
18	9.00	0.	0.	3.80E-06	0.	0.	0.	0.	0.	7.11E-06	1.24E-08	1.23E-05	2.53E-06	1.27E-04
19	8.90	0.	0.	4.36E-06	0.	0.	0.	0.	0.	7.14E-06	1.29E-08	1.23E-05	2.53E-06	1.1
20	8.80	0.	0.	4.52E-06	0.	0.	0.	0.	0.	7.17E-06	1.33E-08	1.23E-05	2.53E-06	1.1
21	8.70	0.	0.	4.36E-06	0.	0.	0.	0.	0.	7.19E-06	1.38E-08	1.23E-05	2.53E-06	8.7
22	8.60	0.	0.	4.20E-06	0.	0.	0.	0.	0.	7.22E-06	1.43E-08	1.23E-05	2.53E-06	8.82E-05
23	8.50	0.	0.	4.09E-06	0.	0.	0.	0.	0.	7.24E-06	1.48E-08	1.23E-05	2.53E-06	7.33E-05
24	8.40	0.	0.	4.03E-06	0.	0.	0.	0.	0.	7.28E-06	1.53E-08	1.23E-05	2.53E-06	7.11E-05
25	8.30	0.	0.	3.96E-06	0.	0.	0.	0.	0.	7.32E-06	1.59E-08	1.23E-05	2.54E-06	5.87E-05
26	8.20	0.	0.	3.86E-06	0.	0.	0.	0.	0.	7.36E-06	1.65E-08	1.23E-05	2.54E-06	5.77E-05
27	8.10	0.	0.	3.74E-06	0.	0.	0.	0.	0.	7.39E-06	1.71E-08	1.23E-05	2.56E-06	5.77E-05
28	8.00	0.	0.	3.62E-06	0.	0.	0.	0.	0.	7.43E-06	1.77E-08	1.23E-05	2.61E-06	4.90E-05
29	7.90	0.	0.	3.49E-06	0.	0.	0.	0.	0.	7.47E-06	1.84E-08	1.23E-05	2.61E-06	4.79E-05
30	7.80	0.	0.	3.36E-06	0.	0.	0.	0.	0.	7.51E-06	1.84E-08	1.23E-05	2.64E-06	4.13E-05
31	7.70	0.	0.	3.21E-06	0.	0.	0.	0.	0.	7.55E-06	1.92E-08	1.23E-05	2.66E-06	4.10E-05
32	7.60	0.	0.	3.06E-06	0.	0.	0.	0.	0.	7.55E-06	1.99E-08	1.23E-05	2.69E-06	3.62E-05
33	7.50	0.	0.	2.90E-06	0.	0.	0.	0.	0.	7.58E-06	2.07E-08	1.23E-05	2.71E-06	3.41E-05
34	7.40	0.	0.	2.76E-06	0.	0.	0.	0.	0.	7.62E-06	2.16E-08	1.23E-05	2.74E-06	3.15E-05
35	7.30	0.	0.	2.61E-06	0.	0.	0.	0.	0.	7.67E-06	2.24E-08	1.23E-05	2.76E-06	2.91E-05
36	7.20	0.	0.	2.45E-06	0.	0.	0.	0.	0.	7.71E-06	2.34E-08	1.23E-05	2.79E-06	2.77E-05
37	7.10	0.	0.	2.28E-06	0.	0.	0.	0.	0.	7.75E-06	2.44E-08	1.23E-05	2.81E-06	2.61E-05
38	7.00	0.	0.	2.09E-06	0.	0.	0.	0.	0.	7.81E-06	2.54E-08	1.23E-05	2.84E-06	2.57E-05
39	6.90	0.	0.	1.94E-06	0.	0.	0.	0.	0.	7.88E-06	2.65E-08	1.23E-05	2.86E-06	2.43E-05
40	6.80	0.	0.	1.79E-06	0.	0.	0.	0.	0.	7.94E-06	2.77E-08	1.23E-05	2.89E-06	2.31E-05
41	6.70	0.	0.	1.64E-06	0.	0.	0.	0.	0.	8.00E-06	2.90E-08	1.23E-05	2.91E-06	2.61E-05
42	6.60	0.	0.	1.49E-06	0.	0.	0.	0.	0.	8.07E-06	3.03E-08	1.23E-05	2.94E-06	2.71E-05
43	6.50	0.	0.	1.34E-06	0.	0.	0.	0.	0.	8.13E-06	3.17E-08	1.23E-05	2.97E-06	2.26E-05
44	6.40	0.	0.	1.19E-06	0.	0.	0.	0.	0.	8.19E-06	3.32E-08	1.23E-05	3.00E-06	2.58E-05
45	6.30	0.	0.	1.04E-06	0.	0.	0.	0.	0.	8.26E-06	3.48E-08	1.23E-05	3.02E-06	2.69E-05
46	6.20	0.	0.	9.9E-07	0.	0.	0.	0.	0.	8.32E-06	3.64E-08	1.23E-05	3.06E-06	2.08E-05
47	6.10	0.	0.	9.4E-07	0.	0.	0.	0.	0.	8.39E-06	3.82E-08	1.23E-05	3.12E-06	2.35E-05
48	6.00	0.	0.	8.9E-07	0.	0.	0.	0.	0.	8.45E-06	4.02E-08	1.23E-05	3.17E-06	2.89E-05
49	5.90	0.	0.	8.4E-07	0.	0.	0.	0.	0.	8.51E-06	4.22E-08	1.23E-05	3.23E-06	2.03E-05
50	5.80	0.	0.	7.9E-07	0.	0.	0.	0.	0.	8.58E-06	4.44E-08	1.23E-05	3.28E-06	2.11E-05
51	5.70	0.	0.	7.4E-07	0.	0.	0.	0.	0.	8.65E-06	4.67E-08	1.23E-05	3.34E-06	2.11E-05
										7.88E-06	4.92E-08	1.23E-05	3.40E-06	2.09E-05



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON D2 S-R		TEMPERATURE (DEGR FES K)		9000.		DENSITY (GM/CC) 1.293E-05 (1.0E-03 NORMAL)		FREE-FREE		N		U		TOTAL AIR			
ENERGY	BANDS	1ST POS.	2ND POS.	M2	N2+	BETA	NO	GAMMA	VIR-ROT	NO	NO	PHOTO-DET (IONS)	P.E.	P.E.	P.E.		
52	5.60	1.64E-15	0.	0.	0.	1.12E-06	7.90E-06	0.	0.	0.	0.	7.32E-06	5.19E-08	3.28E-06	3.45E-06	2.31E-05	
53	5.50	0.	0.	0.	0.	1.38E-06	7.69E-06	0.	0.	0.	0.	7.36E-06	5.48E-08	3.32E-06	3.51E-06	2.33E-05	
54	5.40	0.	0.	0.	0.	1.15E-06	4.92E-06	0.	0.	0.	0.	7.40E-06	5.79E-08	3.37E-06	3.57E-06	2.05E-05	
55	5.30	0.	0.	0.	0.	1.19E-06	7.44E-06	0.	0.	0.	0.	7.45E-06	6.13E-08	3.42E-06	3.64E-06	2.32E-05	
56	5.20	0.	0.	0.	0.	1.22E-06	4.17E-06	0.	0.	0.	0.	7.50E-06	6.49E-08	3.47E-06	3.72E-06	2.01E-05	
57	5.10	0.	0.	0.	0.	1.18E-06	5.74E-06	0.	0.	0.	0.	7.56E-06	6.88E-08	3.55E-06	3.81E-06	2.19E-05	
58	5.00	1.94E-08	0.	0.	0.	1.03E-06	4.92E-06	0.	0.	0.	0.	7.62E-06	7.30E-08	3.65E-06	3.90E-06	2.12E-05	
59	4.90	4.37E-08	0.	0.	0.	1.10E-06	4.83E-06	0.	0.	0.	0.	7.69E-06	7.76E-08	3.75E-06	3.99E-06	2.15E-05	
60	4.80	7.51E-08	0.	0.	0.	1.15E-06	4.43E-06	0.	0.	0.	0.	7.75E-06	8.26E-08	3.84E-06	4.07E-06	2.14E-05	
61	4.70	7.27E-08	0.	0.	0.	1.08E-06	3.68E-06	0.	0.	0.	0.	7.81E-06	8.80E-08	3.94E-06	4.17E-06	2.09E-05	
62	4.60	1.16E-07	0.	0.	0.	1.07E-06	3.45E-06	0.	0.	0.	0.	7.88E-06	9.39E-08	4.06E-06	4.28E-06	2.09E-05	
63	4.50	1.16E-07	0.	0.	0.	9.15E-07	2.42E-06	0.	0.	0.	0.	7.94E-06	1.00E-07	4.19E-06	4.38E-06	2.03E-05	
64	4.40	1.16E-07	0.	0.	0.	8.86E-07	1.81E-06	0.	0.	0.	0.	8.00E-06	1.07E-07	4.33E-06	4.48E-06	2.05E-05	
65	4.30	1.05E-07	0.	0.	0.	7.92E-07	9.98E-07	0.	0.	0.	0.	8.07E-06	1.15E-07	4.48E-06	4.59E-06	2.10E-05	
66	4.20	9.12E-08	0.	0.	0.	8.14E-07	8.10E-07	0.	0.	0.	0.	8.13E-06	1.23E-07	4.63E-06	4.55E-06	2.69E-05	
67	4.10	8.13E-08	0.	0.	0.	7.43E-07	2.06E-07	0.	0.	0.	0.	8.16E-06	1.33E-07	4.77E-06	4.61E-06	1.70E-05	
68	4.00	7.08E-08	0.	0.	0.	6.82E-07	1.57E-07	0.	0.	0.	0.	8.19E-06	1.43E-07	4.73E-06	4.63E-06	2.44E-05	
69	3.90	5.65E-08	0.	0.	0.	5.75E-07	6.94E-08	0.	0.	0.	0.	8.16E-06	1.54E-07	4.88E-06	4.65E-06	1.88E-05	
70	3.80	5.96E-08	0.	0.	0.	6.04E-07	0.	0.	0.	0.	0.	8.13E-06	1.67E-07	4.96E-06	4.75E-06	3.02E-05	
71	3.70	4.81E-08	0.	0.	0.	4.56E-07	0.	0.	0.	0.	0.	8.00E-06	1.81E-07	4.99E-06	4.73E-06	2.32E-05	
72	3.60	4.12E-08	0.	0.	0.	4.98E-07	0.	0.	0.	0.	0.	7.50E-06	1.97E-07	4.75E-06	4.65E-06	3.16E-05	
73	3.50	3.62E-08	0.	0.	0.	5.14E-05	3.48E-07	0.	0.	0.	0.	6.86E-06	2.14E-07	4.11E-06	4.72E-06	7.02E-05	
74	3.40	3.07E-08	0.	0.	0.	3.33E-06	3.85E-07	0.	0.	0.	0.	3.94E-06	2.34E-07	3.52E-06	4.09E-06	1.58E-05	
75	3.30	2.35E-08	0.	0.	0.	2.02E-05	2.77E-07	0.	0.	0.	0.	3.96E-06	2.54E-07	3.93E-06	4.21E-06	3.35E-05	
76	3.20	1.95E-08	0.	0.	0.	5.60E-05	2.81E-07	0.	0.	0.	0.	3.97E-06	2.81E-07	4.34E-06	4.33E-06	6.82E-05	
77	3.10	1.75E-08	0.	0.	0.	5.21E-06	2.46E-07	0.	0.	0.	0.	3.98E-06	3.09E-07	4.76E-06	4.45E-06	1.75E-05	
78	3.00	1.42E-08	0.	0.	0.	8.37E-07	2.03E-05	2.14E-07	0.	0.	0.	3.99E-06	3.41E-07	5.18E-06	4.57E-06	3.24E-05	
79	2.90	1.15E-08	0.	0.	0.	4.95E-07	1.41E-05	1.44E-07	0.	0.	0.	4.00E-06	3.77E-07	5.60E-06	4.69E-06	2.64E-05	
80	2.80	1.04E-08	0.	0.	0.	2.30E-07	4.58E-06	8.52E-08	0.	0.	0.	4.00E-06	4.19E-07	6.07E-06	4.82E-06	1.72E-05	
81	2.70	6.17E-09	0.	0.	0.	1.05E-07	9.94E-06	3.98E-08	0.	0.	0.	4.00E-06	4.68E-07	6.55E-06	4.90E-06	2.30E-05	
82	2.60	2.52E-09	0.	0.	0.	5.38E-08	9.35E-07	1.52E-08	0.	0.	0.	4.00E-06	5.25E-07	7.07E-06	5.24E-06	1.32E-05	
83	2.50	1.66E-10	0.	0.	0.	7.03E-09	6.69E-07	3.31E-09	0.	0.	0.	4.00E-06	5.91E-07	7.63E-06	5.71E-06	9.62E-06	
84	2.40	0.	0.	0.	0.	7.94E-07	3.29E-10	0.	0.	0.	0.	4.00E-06	6.69E-07	8.53E-06	6.84E-06	1.13E-05	
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.97E-06	7.60E-07	9.49E-06	7.60E-06	1.33E-05	
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.95E-06	8.70E-07	1.08E-06	8.70E-06	1.68E-05	
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.94E-06	1.00E-06	1.28E-06	1.28E-06	2.03E-05	
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.81E-06	1.16E-06	1.60E-06	1.71E-06	2.53E-05	
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.67E-06	1.36E-06	2.03E-06	2.03E-06	3.72E-05	
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.51E-06	1.60E-06	2.50E-06	2.50E-06	5.56E-05	
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.30E-06	1.90E-06	3.19E-06	3.19E-06	4.17E-05	
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.79E-06	2.28E-06	4.19E-06	4.19E-06	4.25E-05	
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.27E-06	2.77E-06	5.75E-06	5.75E-06	4.77E-05	
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.42E-06	2.13E-06	4.29E-06	4.29E-06	4.04E-05
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.28E-06	1.87E-06	3.75E-06	3.75E-06	4.04E-05
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.46E-06	2.46E-06	5.46E-06	5.46E-06	5.46E-05
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.11E-06	3.08E-06	7.11E-06	7.11E-06	6.23E-05
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.51E-06	3.55E-06	9.51E-06	9.51E-06	7.11E-05
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-05	4.16E-06	1.31E-05	1.31E-05	7.87E-05
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-05	4.70E-06	1.87E-05	1.87E-05	8.25E-05
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.83E-05	5.45E-06	2.83E-05	2.83E-05	9.93E-05
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.54E-05	6.20E-06	4.54E-05	4.54E-05	9.93E-05



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K.)		9000.		DENSITY (GM/CC)		1.293E-06		(10.0E-04 NORMAL)		O		TOTAL AIR	
PHOTON ENERGY E.V.	NO. 2 S-R HANDS	NO. 2 S-R CONT.	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1
1	10.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 B-H NO. 1	TEMPERATURE (DEGREES K)		900°	DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)		NU 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
				NO BETA	NO GAMMA									
1	1.70	0.	6.99E-08	0.	0.	0.	0.	0.	0.	6.09E-09	6.70E-11	1.09E-07	2.37E-08	2.09E-07
2	1.60	0.	5.92E-08	0.	0.	0.	0.	0.	0.	6.10E-09	6.89E-11	1.10E-07	2.37E-08	1.99E-07
3	1.50	0.	5.73E-08	0.	0.	0.	0.	0.	0.	6.11E-09	7.09E-11	1.10E-07	2.37E-08	1.97E-07
4	1.40	0.	5.19E-08	0.	0.	0.	0.	0.	0.	6.11E-09	7.30E-11	1.11E-07	2.37E-08	1.91E-07
5	1.30	0.	4.14E-08	0.	0.	0.	0.	0.	0.	6.12E-09	7.51E-11	1.11E-07	2.37E-08	1.82E-07
6	1.20	0.	4.07E-08	0.	0.	0.	0.	0.	0.	6.13E-09	7.74E-11	1.11E-07	2.37E-08	1.82E-07
7	1.10	0.	3.66E-08	0.	0.	0.	0.	0.	0.	6.14E-09	7.97E-11	1.11E-07	2.37E-08	1.78E-07
8	1.00	0.	2.92E-08	0.	0.	0.	0.	0.	0.	6.15E-09	8.22E-11	1.12E-07	2.37E-08	1.71E-07
9	0.90	0.	2.94E-08	0.	0.	0.	0.	0.	0.	6.16E-09	8.47E-11	1.12E-07	2.36E-08	1.71E-07
10	0.80	0.	2.58E-08	0.	0.	0.	0.	0.	0.	6.17E-09	8.73E-11	1.12E-07	2.36E-08	1.68E-07
11	0.70	0.	2.04E-08	0.	0.	0.	0.	0.	0.	6.18E-09	9.01E-11	1.13E-07	2.36E-08	1.63E-07
12	0.60	0.	2.18E-08	0.	0.	0.	0.	0.	0.	6.19E-09	9.29E-11	1.13E-07	2.36E-08	1.65E-07
13	0.50	0.	1.39E-10	0.	0.	0.	0.	0.	0.	6.20E-09	9.59E-11	1.13E-07	2.36E-08	1.60E-07
14	0.40	0.	1.71E-10	0.	0.	0.	0.	0.	0.	6.23E-09	9.90E-11	1.13E-07	2.36E-08	1.59E-07
15	0.30	0.	2.03E-10	0.	0.	0.	0.	0.	0.	6.25E-09	1.02E-10	3.04E-08	2.36E-08	7.56E-08
16	0.20	0.	2.35E-10	0.	0.	0.	0.	0.	0.	6.27E-09	1.06E-10	3.03E-08	2.36E-08	7.16E-08
17	0.10	0.	2.81E-10	0.	0.	0.	0.	0.	0.	6.29E-09	1.09E-10	3.03E-08	2.36E-08	7.18E-08
18	0.00	0.	3.30E-10	0.	0.	0.	0.	0.	0.	6.32E-09	1.13E-10	3.02E-08	2.36E-08	7.00E-08
19	0.90	0.	3.79E-10	0.	0.	0.	0.	0.	0.	6.34E-09	1.17E-10	3.01E-08	2.36E-08	6.86E-08
20	0.80	0.	3.92E-10	0.	0.	0.	0.	0.	0.	6.36E-09	1.21E-10	3.00E-08	2.36E-08	6.82E-08
21	0.70	0.	3.78E-10	0.	0.	0.	0.	0.	0.	6.38E-09	1.25E-10	2.99E-08	2.36E-08	6.64E-08
22	0.60	0.	3.65E-10	0.	0.	0.	0.	0.	0.	6.41E-09	1.29E-10	2.99E-08	2.36E-08	6.64E-08
23	0.50	0.	3.55E-10	0.	0.	0.	0.	0.	0.	6.43E-09	1.34E-10	2.98E-08	2.36E-08	6.51E-08
24	0.40	0.	3.50E-10	0.	0.	0.	0.	0.	0.	6.46E-09	1.39E-10	2.97E-08	2.36E-08	6.49E-08
25	0.30	0.	3.44E-10	0.	0.	0.	0.	0.	0.	6.50E-09	1.44E-10	2.96E-08	2.37E-08	6.39E-08
26	0.20	0.	3.35E-10	0.	0.	0.	0.	0.	0.	6.53E-09	1.49E-10	2.96E-08	2.39E-08	6.40E-08
27	0.10	0.	3.25E-10	0.	0.	0.	0.	0.	0.	6.56E-09	1.55E-10	2.94E-08	2.41E-08	6.34E-08
28	0.00	0.	3.14E-10	0.	0.	0.	0.	0.	0.	6.60E-09	1.61E-10	2.94E-08	2.44E-08	6.35E-08
29	0.90	0.	3.03E-10	0.	0.	0.	0.	0.	0.	6.63E-09	1.67E-10	2.93E-08	2.46E-08	6.31E-08
30	0.80	0.	2.91E-10	0.	0.	0.	0.	0.	0.	6.66E-09	1.74E-10	2.92E-08	2.48E-08	6.33E-08
31	0.70	0.	2.79E-10	0.	0.	0.	0.	0.	0.	6.70E-09	1.80E-10	2.92E-08	2.51E-08	6.31E-08
32	0.60	0.	2.66E-10	0.	0.	0.	0.	0.	0.	6.73E-09	1.88E-10	2.91E-08	2.53E-08	6.31E-08
33	0.50	0.	2.52E-10	0.	0.	0.	0.	0.	0.	6.77E-09	1.95E-10	2.91E-08	2.55E-08	6.31E-08
34	0.40	0.	2.39E-10	0.	0.	0.	0.	0.	0.	6.80E-09	2.03E-10	2.90E-08	2.58E-08	6.31E-08
35	0.30	0.	2.27E-10	0.	0.	0.	0.	0.	0.	6.84E-09	2.12E-10	2.90E-08	2.60E-08	6.32E-08
36	0.20	0.	2.13E-10	0.	0.	0.	0.	0.	0.	6.88E-09	2.21E-10	2.89E-08	2.62E-08	6.33E-08
37	0.10	0.	1.98E-10	0.	0.	0.	0.	0.	0.	6.94E-09	2.30E-10	2.88E-08	2.65E-08	6.35E-08
38	0.00	0.	1.80E-10	0.	0.	0.	0.	0.	0.	6.99E-09	2.41E-10	2.88E-08	2.67E-08	6.36E-08
39	0.90	0.	1.61E-10	0.	0.	0.	0.	0.	0.	7.05E-09	2.51E-10	2.87E-08	2.69E-08	6.38E-08
40	0.80	0.	1.47E-10	0.	0.	0.	0.	0.	0.	7.10E-09	2.63E-10	2.87E-08	2.72E-08	6.42E-08
41	0.70	0.	1.35E-10	0.	0.	0.	0.	0.	0.	7.16E-09	2.74E-10	2.86E-08	2.74E-08	6.46E-08
42	0.60	0.	1.25E-10	0.	0.	0.	0.	0.	0.	7.22E-09	2.87E-10	2.87E-08	2.77E-08	6.46E-08
43	0.50	0.	1.17E-10	0.	0.	0.	0.	0.	0.	7.27E-09	3.01E-10	2.87E-08	2.79E-08	6.52E-08
44	0.40	0.	1.04E-10	0.	0.	0.	0.	0.	0.	7.33E-09	3.15E-10	2.88E-08	2.82E-08	6.57E-08
45	0.30	0.	0.92E-10	0.	0.	0.	0.	0.	0.	7.39E-09	3.30E-10	2.89E-08	2.85E-08	6.56E-08
46	0.20	0.	0.81E-10	0.	0.	0.	0.	0.	0.	7.44E-09	3.47E-10	2.89E-08	2.90E-08	6.65E-08
47	0.10	0.	0.71E-10	0.	0.	0.	0.	0.	0.	7.50E-09	3.64E-10	2.91E-08	2.96E-08	6.78E-08
48	0.00	0.	0.63E-10	0.	0.	0.	0.	0.	0.	7.56E-09	3.83E-10	2.94E-08	3.01E-08	6.79E-08
49	0.90	0.	0.56E-10	0.	0.	0.	0.	0.	0.	7.56E-09	4.02E-10	2.96E-08	3.06E-08	6.87E-08
50	0.80	0.	0.50E-10	0.	0.	0.	0.	0.	0.	7.44E-09	4.24E-10	2.99E-08	3.11E-08	6.94E-08
51	0.70	0.	0.45E-10	0.	0.	0.	0.	0.	0.	6.99E-09	4.46E-10	3.01E-08	3.16E-08	6.97E-08

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 9000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)															
PHOTO-U2 S-K ENERGY CHANNELS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N2+ 2FT	N2 GAMMA	N2 VIR-ROT	N2 NO 2	PHOTO-DET (ICNS)	FREE-FREE N P.E.	O P.E.	TOTAL AIR				
52	5.60 1.47E-19 0.	0.	0.	9.64E-11 6.81E-10 0.	0.	0.	6.50E-09 4.71E-10 3.04E-08 3.22E-08 7.03E-08								
53	5.50 0. 0.	0.	0.	1.19E-10 6.63E-10 0.	0.	0.	6.54E-09 4.97E-10 3.07E-08 3.27E-08 7.13E-08								
54	5.40 0. 0.	0.	0.	9.94E-11 6.24E-10 0.	0.	0.	6.57E-09 5.25E-10 3.12E-08 3.33E-08 7.20E-08								
55	5.30 0. 0.	0.	0.	1.02E-10 6.42E-10 0.	0.	0.	6.61E-09 5.55E-10 3.16E-08 3.39E-08 7.34E-08								
56	5.20 0. 0.	0.	0.	1.05E-10 6.59E-10 0.	0.	0.	6.65E-09 5.88E-10 3.21E-08 3.47E-08 7.45E-08								
57	5.10 0. 0.	0.	0.	1.02E-10 6.94E-10 0.	0.	0.	6.71E-09 6.23E-10 3.29E-08 3.55E-08 7.63E-08								
58	5.00 1.7E-12 0.	0.	0.	8.86E-11 4.24E-10 0.	0.	0.	6.77E-09 6.62E-10 3.38E-08 3.63E-08 7.80E-08								
59	4.90 3.74E-12 0.	0.	0.	9.44E-11 4.16E-10 0.	0.	0.	6.82E-09 7.03E-10 3.47E-08 3.72E-08 7.99E-08								
60	4.80 6.52E-12 0.	0.	0.	9.89E-11 3.82E-10 0.	0.	0.	6.88E-09 7.49E-10 3.56E-08 3.80E-08 8.16E-08								
61	4.70 8.06E-12 0.	0.	0.	9.32E-11 3.17E-10 0.	0.	0.	6.94E-09 7.98E-10 3.64E-08 3.89E-08 8.35E-08								
62	4.60 1.03E-11 0.	0.	0.	9.23E-11 2.98E-10 0.	0.	0.	6.99E-09 8.51E-10 3.75E-08 3.99E-08 8.56E-08								
63	4.50 1.01E-11 0.	0.	0.	7.88E-11 2.08E-10 0.	0.	0.	7.05E-09 9.10E-10 3.88E-08 4.08E-08 8.79E-08								
64	4.40 1.01E-11 0.	0.	0.	7.64E-11 1.56E-10 0.	0.	0.	7.10E-09 9.73E-10 4.01E-08 4.18E-08 9.03E-08								
65	4.30 8.91E-12 0.	0.	0.	6.83E-11 8.60E-11 0.	0.	0.	7.16E-09 1.04E-09 4.14E-08 4.27E-08 9.26E-08								
66	4.20 7.92E-12 0.	0.	0.	7.02E-11 6.98E-11 0.	0.	0.	7.22E-09 1.12E-09 4.28E-08 4.36E-08 9.49E-08								
67	4.10 7.00E-12 0.	0.	0.	6.40E-11 1.78E-11 0.	0.	0.	7.25E-09 1.20E-09 4.36E-08 4.45E-08 9.72E-08								
68	4.00 6.15E-12 0.	0.	0.	5.88E-11 1.35E-11 0.	0.	0.	7.27E-09 1.30E-09 4.45E-08 4.54E-08 9.95E-08								
69	3.90 4.87E-12 0.	0.	0.	4.10E-10 1.29E-09 0.	0.	0.	7.25E-09 1.30E-09 4.45E-08 4.54E-08 9.95E-08								
70	3.80 5.17E-12 0.	0.	0.	5.59E-10 9.99E-09 0.	0.	0.	7.22E-09 1.40E-09 4.54E-08 4.63E-08 1.01E-08								
71	3.70 4.14E-12 0.	0.	0.	7.64E-10 2.14E-09 0.	0.	0.	7.22E-09 1.51E-09 4.63E-08 4.72E-08 1.03E-08								
72	3.60 3.58E-12 0.	0.	0.	3.71E-10 1.39E-08 0.	0.	0.	7.10E-09 1.64E-09 4.72E-08 4.81E-08 1.05E-08								
73	3.50 3.14E-12 0.	0.	0.	5.98E-10 4.64E-08 0.	0.	0.	6.65E-09 1.78E-09 4.81E-08 4.90E-08 1.07E-08								
74	3.40 2.61E-12 0.	0.	0.	2.81E-10 2.99E-09 0.	0.	0.	6.09E-09 1.94E-09 4.90E-08 5.00E-08 1.09E-08								
75	3.30 2.04E-12 0.	0.	0.	3.13E-10 1.81E-08 0.	0.	0.	3.51E-09 2.12E-09 5.00E-08 5.10E-08 1.11E-08								
76	3.20 1.65E-12 0.	0.	0.	1.70E-10 5.03E-08 0.	0.	0.	3.52E-09 2.32E-09 5.10E-08 5.20E-08 1.13E-08								
77	3.10 1.48E-12 0.	0.	0.	1.31E-10 4.68E-09 0.	0.	0.	3.52E-09 2.54E-09 5.20E-08 5.30E-08 1.15E-08								
78	3.00 1.23E-12 0.	0.	0.	7.17E-11 1.83E-08 0.	0.	0.	3.53E-09 2.80E-09 5.30E-08 5.40E-08 1.17E-08								
79	2.90 9.52E-13 0.	0.	0.	4.24E-11 1.26E-08 0.	0.	0.	3.54E-09 3.09E-09 5.40E-08 5.50E-08 1.19E-08								
80	2.80 9.38E-13 0.	0.	0.	1.97E-11 4.12E-09 0.	0.	0.	3.55E-09 3.42E-09 5.50E-08 5.60E-08 1.21E-08								
81	2.70 5.36E-13 0.	0.	0.	9.01E-12 8.94E-09 0.	0.	0.	3.55E-09 3.80E-09 5.60E-08 5.70E-08 1.23E-08								
82	2.60 2.17E-13 0.	0.	0.	4.61E-12 8.40E-10 0.	0.	0.	3.55E-09 4.24E-09 5.70E-08 5.80E-08 1.25E-08								
83	2.50 1.44E-14 0.	0.	0.	6.02E-13 7.02E-10 0.	0.	0.	3.55E-09 4.75E-09 5.80E-08 5.90E-08 1.27E-08								
84	2.40 0. 0.	3.72E-11 0.	0.	7.14E-10 2.84E-14 0.	0.	0.	3.55E-09 5.35E-09 5.90E-08 6.00E-08 1.29E-08								
85	2.30 0. 0.	1.76E-10 0.	0.	0. 0. 0.	0.	0.	3.52E-09 6.06E-09 6.00E-08 6.10E-08 1.31E-08								
86	2.20 0. 0.	3.65E-10 0.	0.	0. 0. 0.	0.	0.	3.51E-09 6.89E-09 6.10E-08 6.20E-08 1.33E-08								
87	2.10 0. 0.	5.38E-10 0.	0.	0. 0. 0.	0.	0.	3.50E-09 7.88E-09 6.20E-08 6.30E-08 1.35E-08								
88	2.00 0. 0.	8.58E-10 0.	0.	0. 0. 0.	0.	0.	3.50E-09 9.08E-09 6.30E-08 6.40E-08 1.37E-08								
89	1.90 0. 0.	1.76E-09 0.	0.	0. 0. 0.	0.	0.	3.38E-09 1.05E-08 6.40E-08 6.50E-08 1.39E-08								
90	1.80 0. 0.	1.43E-09 0.	0.	0. 0. 0.	0.	0.	3.25E-09 1.23E-08 6.50E-08 6.60E-08 1.41E-08								
91	1.70 0. 0.	1.74E-09 0.	0.	0. 0. 0.	0.	0.	3.11E-09 1.45E-08 6.60E-08 6.70E-08 1.43E-08								
92	1.60 0. 0.	1.21E-09 0.	0.	0. 0. 0.	0.	0.	2.93E-09 1.72E-08 6.70E-08 6.80E-08 1.45E-08								
93	1.50 0. 0.	1.49E-09 0.	0.	0. 0. 0.	0.	0.	2.48E-09 2.07E-08 6.80E-08 6.90E-08 1.47E-08								
94	1.40 0. 0.	1.60E-09 0.	0.	0. 0. 0.	0.	0.	1.13E-09 2.51E-08 6.90E-08 7.00E-08 1.49E-08								
95	1.30 0. 0.	1.17E-09 0.	0.	0. 0. 0.	0.	0.	0. 3.10E-08 7.10E-07 7.10E-07 1.51E-08								
96	1.20 0. 0.	1.20E-09 0.	0.	0. 0. 0.	0.	0.	0. 3.88E-08 1.70E-07 7.20E-07 1.53E-08								
97	1.10 0. 0.	9.66E-10 0.	0.	0. 0. 0.	0.	0.	0. 4.95E-08 2.28E-07 7.30E-07 1.55E-08								
98	1.00 0. 0.	7.02E-10 0.	0.	0. 0. 0.	0.	0.	0. 6.45E-08 2.72E-07 7.40E-07 1.57E-08								
99	0.90 0. 0.	2.24E-10 0.	0.	0. 0. 0.	0.	0.	0. 8.62E-08 3.29E-07 7.50E-07 1.59E-08								
100	0.80 0. 0.	3.36E-10 0.	0.	0. 0. 0.	0.	0.	0. 1.19E-07 3.75E-07 7.60E-07 1.61E-08								
101	0.70 0. 0.	8.93E-11 0.	0.	0. 0. 0.	0.	0.	0. 1.70E-07 4.35E-07 7.70E-07 1.63E-08								
102	0.60 0. 0.	4.89E-12 0.	0.	0. 0. 0.	0.	0.	0. 2.57E-07 5.05E-07 7.80E-07 1.65E-08								
							0. 4.11E-07 5.85E-07 7.90E-07 1.67E-08								

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		900C.	DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)		NU	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N	O	TOTAL AIR
PHOTON ENERGY E.V.	NU 2 B-H NO. 1	O2 S-R CONT.	NO BETA	NO GAMMA	2			P.E.	P.E.	
1 10.70 0.	4.38E-10	0.	0.	0.	0.	1.44E-10	5.35E-12	8.64E-09	1.98E-09	1.12E-08
2 10.60 0.	3.72E-10	0.	0.	0.	0.	1.44E-10	5.51E-12	8.68E-09	1.98E-09	1.12E-08
3 10.50 0.	3.60E-10	0.	0.	0.	0.	1.44E-10	5.67E-12	8.73E-09	1.98E-09	1.12E-08
4 10.40 0.	3.22E-10	0.	0.	0.	0.	1.45E-10	5.83E-12	8.76E-09	1.98E-09	1.12E-08
5 10.30 0.	2.59E-10	0.	0.	0.	0.	1.45E-10	6.01E-12	8.78E-09	1.98E-09	1.12E-08
6 10.20 0.	2.56E-10	0.	0.	0.	0.	1.45E-10	6.19E-12	8.80E-09	1.98E-09	1.12E-08
7 10.10 0.	2.30E-10	0.	0.	0.	0.	1.45E-10	6.37E-12	8.83E-09	1.98E-09	1.12E-08
8 10.00 0.	1.83E-10	0.	0.	0.	0.	1.45E-10	6.57E-12	8.85E-09	1.98E-09	1.12E-08
9 9.90 0.	1.85E-10	0.	0.	0.	0.	1.46E-10	6.77E-12	8.87E-09	1.98E-09	1.12E-08
10 9.80 0.	1.62E-10	0.	0.	0.	0.	1.46E-10	6.98E-12	8.89E-09	1.98E-09	1.12E-08
11 9.70 0.	1.28E-10	0.	0.	0.	0.	1.46E-10	7.20E-12	8.92E-09	1.98E-09	1.12E-08
12 9.60 0.	1.37E-10	0.	0.	0.	0.	1.46E-10	7.43E-12	8.94E-09	1.98E-09	1.12E-08
13 9.50 0.	1.06E-10	9.73E-13	0.	0.	0.	1.47E-10	7.67E-12	8.96E-09	1.98E-09	1.12E-08
14 9.40 0.	1.20E-12	1.20E-12	0.	0.	0.	1.47E-10	7.91E-12	8.99E-09	1.98E-09	1.12E-08
15 9.30 0.	1.42E-12	9.41E-11	0.	0.	0.	1.48E-10	8.17E-12	2.41E-09	1.98E-09	4.64E-09
16 9.20 0.	1.65E-12	6.89E-11	0.	0.	0.	1.48E-10	8.44E-12	2.40E-09	1.98E-09	4.61E-09
17 9.10 0.	1.97E-12	7.06E-11	0.	0.	0.	1.49E-10	8.73E-12	2.40E-09	1.98E-09	4.60E-09
18 9.00 0.	2.31E-12	5.91E-11	0.	0.	0.	1.49E-10	9.02E-12	2.39E-09	1.98E-09	4.59E-09
19 8.90 0.	2.65E-12	5.08E-11	0.	0.	0.	1.50E-10	9.33E-12	2.38E-09	1.97E-09	4.57E-09
20 8.80 0.	2.75E-12	4.82E-11	0.	0.	0.	1.50E-10	9.65E-12	2.38E-09	1.97E-09	4.56E-09
21 8.70 0.	2.65E-12	3.78E-11	0.	0.	0.	1.51E-10	9.99E-12	2.37E-09	1.97E-09	4.55E-09
22 8.60 0.	2.55E-12	3.82E-11	0.	0.	0.	1.52E-10	1.03E-11	2.36E-09	1.97E-09	4.54E-09
23 8.50 0.	2.49E-12	3.02E-11	0.	0.	0.	1.52E-10	1.07E-11	2.35E-09	1.97E-09	4.53E-09
24 8.40 0.	2.41E-12	2.90E-11	0.	0.	0.	1.54E-10	1.15E-11	2.35E-09	1.98E-09	4.53E-09
25 8.30 0.	2.35E-12	2.19E-11	0.	0.	0.	1.54E-10	1.19E-11	2.34E-09	2.00E-09	4.53E-09
26 8.20 0.	2.27E-12	1.72E-11	0.	0.	0.	1.55E-10	1.24E-11	2.33E-09	2.02E-09	4.54E-09
27 8.10 0.	2.20E-12	1.67E-11	0.	0.	0.	1.56E-10	1.29E-11	2.33E-09	2.04E-09	4.55E-09
28 8.00 0.	2.12E-12	1.31E-11	0.	0.	0.	1.57E-10	1.34E-11	2.32E-09	2.06E-09	4.56E-09
29 7.90 0.	2.04E-12	1.30E-11	0.	0.	0.	1.58E-10	1.39E-11	2.32E-09	2.08E-09	4.58E-09
30 7.80 0.	1.95E-12	1.05E-11	0.	0.	0.	1.58E-10	1.44E-11	2.31E-09	2.10E-09	4.59E-09
31 7.70 0.	1.66E-12	9.43E-12	0.	6.37E-16	0.	1.59E-10	1.50E-11	2.31E-09	2.12E-09	4.61E-09
32 7.60 0.	1.77E-12	8.09E-12	0.	3.66E-15	0.	1.60E-10	1.56E-11	2.30E-09	2.14E-09	4.62E-09
33 7.50 0.	1.68E-12	6.83E-12	0.	1.67E-14	0.	1.61E-10	1.63E-11	2.30E-09	2.16E-09	4.64E-09
34 7.40 0.	1.59E-12	6.05E-12	0.	8.97E-14	0.	1.62E-10	1.69E-11	2.29E-09	2.17E-09	4.66E-09
35 7.30 0.	1.49E-12	5.09E-12	0.	2.46E-13	0.	1.63E-10	1.77E-11	2.29E-09	2.19E-09	4.67E-09
36 7.20 0.	1.39E-12	4.58E-12	0.	6.02E-13	0.	1.64E-10	1.84E-11	2.29E-09	2.21E-09	4.69E-09
37 7.10 0.	1.54E-15	0.	0.	1.80E-12	0.	1.65E-10	1.92E-11	2.28E-09	2.23E-09	4.70E-09
38 7.00 0.	2.88E-15	0.	0.	1.68E-12	0.	1.67E-10	2.01E-11	2.28E-09	2.25E-09	4.72E-09
39 6.90 0.	2.37E-15	0.	0.	3.68E-12	0.	1.68E-10	2.10E-11	2.27E-09	2.27E-09	4.74E-09
40 6.80 0.	1.64E-15	0.	0.	4.80E-12	0.	1.69E-10	2.19E-11	2.27E-09	2.29E-09	4.76E-09
41 6.70 0.	9.53E-16	0.	0.	2.65E-12	0.	1.71E-10	2.30E-11	2.27E-09	2.32E-09	4.78E-09
42 6.60 0.	5.25E-16	0.	0.	5.00E-12	0.	1.72E-10	2.40E-11	2.28E-09	2.34E-09	4.81E-09
43 6.50 0.	2.81E-16	0.	3.42E-14	6.17E-12	0.	1.73E-10	2.52E-11	2.28E-09	2.36E-09	4.84E-09
44 6.40 0.	1.52E-16	0.	1.47E-13	2.92E-12	0.	1.75E-10	2.64E-11	2.29E-09	2.39E-09	4.88E-09
45 6.30 0.	6.45E-17	0.	1.92E-13	4.59E-12	0.	1.76E-10	2.77E-11	2.29E-09	2.43E-09	4.93E-09
46 6.20 0.	2.75E-17	0.	5.20E-13	7.42E-12	0.	1.77E-10	2.91E-11	2.31E-09	2.47E-09	5.00E-09
47 6.10 0.	1.01E-17	0.	4.32E-13	2.61E-12	0.	1.79E-10	3.06E-11	2.33E-09	2.52E-09	5.06E-09
48 6.00 0.	3.19E-18	0.	6.07E-13	2.83E-12	0.	1.79E-10	3.22E-11	2.35E-09	2.56E-09	5.12E-09
49 5.90 0.	3.19E-19	0.	8.10E-13	2.66E-12	0.	1.76E-10	3.39E-11	2.37E-09	2.60E-09	5.18E-09
50 5.80 0.	2.33E-20	0.	8.66E-13	2.76E-12	0.	1.65E-10	3.57E-11	2.38E-09	2.65E-09	5.24E-09
51 5.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-08 (1.0E-05 NORMAL)				
9000.												
PHOTON 02 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	Q- PHOTU-DET (IONS)	N P.E.	O P.E.	TOTAL AIR	
52	5.60 1.03E-21	0.	0.	6.39E-13	4.51E-12	0.	0.	1.54E-10	3.76E-11	2.41E-09	2.69E-09	5.29E-09
53	5.50 0.	0.	0.	7.88E-13	4.40E-12	0.	0.	1.55E-10	3.97E-11	2.43E-09	2.74E-09	5.37E-09
54	5.40 0.	0.	0.	6.59E-13	2.81E-12	0.	0.	1.55E-10	4.20E-11	2.47E-09	2.78E-09	5.45E-09
55	5.30 0.	0.	0.	6.78E-13	4.25E-12	0.	0.	1.56E-10	4.44E-11	2.50E-09	2.84E-09	5.55E-09
56	5.20 0.	0.	0.	6.99E-13	2.38E-12	0.	0.	1.57E-10	4.70E-11	2.54E-09	2.90E-09	5.65E-09
57	5.10 0.	0.	0.	6.75E-13	3.28E-12	0.	0.	1.59E-10	4.98E-11	2.60E-09	2.97E-09	5.79E-09
58	5.00 1.17E-14	0.	0.	5.87E-13	2.81E-12	0.	0.	1.60E-10	5.29E-11	2.67E-09	3.04E-09	5.93E-09
59	4.90 2.65E-14	0.	0.	6.26E-13	2.76E-12	0.	0.	1.61E-10	5.62E-11	2.75E-09	3.11E-09	6.07E-09
60	4.80 4.56E-14	0.	0.	6.55E-13	2.53E-12	0.	0.	1.63E-10	5.99E-11	2.82E-09	3.18E-09	6.22E-09
61	4.70 5.64E-14	0.	0.	6.18E-13	2.10E-12	0.	0.	1.64E-10	6.38E-11	2.89E-09	3.26E-09	6.37E-09
62	4.60 7.12E-14	0.	0.	6.12E-13	1.97E-12	0.	0.	1.65E-10	6.81E-11	2.97E-09	3.34E-09	6.54E-09
63	4.50 7.02E-14	0.	1.12E-13	5.23E-13	1.38E-12	0.	0.	1.67E-10	7.27E-11	3.07E-09	3.42E-09	6.73E-09
64	4.40 7.05E-14	0.	4.22E-13	5.06E-13	1.03E-12	0.	0.	1.68E-10	7.78E-11	3.18E-09	3.50E-09	6.92E-09
65	4.30 6.23E-14	0.	9.74E-13	4.53E-13	5.70E-13	0.	0.	1.69E-10	8.34E-11	3.28E-09	3.57E-09	7.01E-09
66	4.20 5.54E-14	0.	4.16E-12	4.65E-13	4.63E-13	0.	0.	1.71E-10	8.95E-11	3.39E-09	4.68E-10	4.12E-09
67	4.10 4.94E-14	0.	1.21E-12	4.24E-13	1.18E-13	0.	0.	1.71E-10	9.62E-11	2.66E-09	4.83E-10	3.41E-09
68	4.00 4.30E-14	0.	5.80E-12	3.90E-13	8.98E-14	0.	0.	1.72E-10	1.04E-10	2.05E-09	4.97E-10	2.83E-09
69	3.90 3.40E-14	0.	2.57E-12	3.28E-13	3.97E-14	0.	0.	1.71E-10	1.12E-10	2.11E-09	5.11E-10	2.93E-09
70	3.80 3.62E-14	0.	4.79E-12	3.45E-13	0.	0.	0.	1.71E-10	1.21E-10	1.76E-09	5.27E-10	2.80E-09
71	3.70 2.93E-14	0.	4.79E-12	2.61E-13	0.	0.	0.	1.68E-10	1.31E-10	1.63E-09	5.95E-10	2.77E-09
72	3.60 2.51E-14	0.	2.33E-12	2.85E-13	0.	0.	0.	1.57E-10	1.42E-10	2.02E-09	6.74E-10	3.30E-09
73	3.50 2.20E-14	0.	3.75E-12	1.99E-13	0.	0.	0.	1.44E-10	1.55E-10	2.28E-09	7.58E-10	4.37E-09
74	3.40 1.86E-14	0.	1.76E-12	2.20E-13	0.	0.	0.	8.31E-11	1.69E-10	2.58E-09	8.49E-10	3.75E-09
75	3.30 1.43E-14	0.	1.96E-12	1.59E-13	0.	0.	0.	8.32E-11	1.85E-10	2.88E-09	9.40E-10	4.49E-09
76	3.20 1.15E-14	0.	1.06E-12	1.60E-13	0.	0.	0.	8.34E-11	2.03E-10	3.18E-09	1.03E-09	5.62E-09
77	3.10 1.04E-14	0.	8.73E-13	1.40E-13	0.	0.	0.	8.36E-11	2.24E-10	3.49E-09	1.13E-09	5.03E-09
78	3.00 8.65E-15	0.	4.50E-13	1.22E-13	0.	0.	0.	8.38E-11	2.47E-10	3.80E-09	1.22E-09	5.76E-09
79	2.90 6.66E-15	0.	2.66E-13	8.23E-14	0.	0.	0.	8.39E-11	2.73E-10	4.11E-09	1.32E-09	6.07E-09
80	2.80 6.57E-15	0.	1.24E-13	4.87E-14	0.	0.	0.	8.40E-11	3.04E-10	4.45E-09	1.37E-09	6.30E-09
81	2.70 3.76E-15	0.	5.65E-14	2.27E-14	0.	0.	0.	8.40E-11	3.39E-10	4.80E-09	1.49E-10	5.87E-09
82	2.60 1.53E-15	0.	2.89E-14	8.69E-15	0.	0.	0.	8.40E-11	3.80E-10	2.23E-09	4.87E-10	3.20E-09
83	2.50 1.01E-16	0.	3.78E-15	1.89E-15	0.	0.	0.	8.40E-11	4.28E-10	2.66E-09	5.60E-10	3.75E-09
84	2.40 0.	0.	2.33E-13	1.88E-16	0.	0.	0.	8.40E-11	4.84E-10	3.32E-09	6.90E-10	4.59E-09
85	2.30 0.	0.	1.11E-12	0.	0.	0.	0.	8.34E-11	5.51E-10	4.02E-09	8.26E-10	5.48E-09
86	2.20 0.	0.	2.29E-12	0.	0.	0.	0.	8.30E-11	6.30E-10	4.75E-09	9.96E-10	6.46E-09
87	2.10 0.	0.	3.37E-12	0.	0.	0.	0.	8.27E-11	7.26E-10	5.53E-09	1.17E-09	7.51E-09
88	2.00 0.	0.	5.38E-12	0.	0.	0.	0.	8.00E-11	8.41E-10	6.31E-09	1.34E-09	8.58E-09
89	1.90 0.	0.	1.10E-11	0.	0.	0.	0.	7.70E-11	9.82E-10	7.13E-09	1.51E-09	9.71E-09
90	1.80 0.	0.	9.00E-12	0.	0.	0.	0.	7.36E-11	1.16E-09	8.36E-09	1.79E-09	1.14E-08
91	1.70 0.	0.	1.09E-11	0.	0.	0.	0.	6.94E-11	1.37E-09	9.87E-09	2.14E-09	1.35E-08
92	1.60 0.	0.	7.57E-12	0.	0.	0.	0.	5.87E-11	1.65E-09	1.02E-08	2.31E-09	1.42E-08
93	1.50 0.	0.	9.37E-12	0.	0.	0.	0.	2.67E-11	2.01E-09	1.28E-08	2.74E-09	1.76E-08
94	1.40 0.	0.	1.00E-11	0.	0.	0.	0.	0.	2.48E-09	9.46E-09	2.07E-09	1.40E-08
95	1.30 0.	0.	7.32E-12	0.	0.	0.	0.	0.	3.10E-09	1.35E-08	2.93E-09	1.95E-08
96	1.20 0.	0.	7.52E-12	0.	0.	0.	0.	0.	3.96E-09	1.80E-08	3.42E-09	2.54E-08
97	1.10 0.	0.	6.06E-12	0.	0.	4.24E-17	0.	0.	5.15E-09	2.15E-08	4.35E-09	3.10E-08
98	1.00 0.	0.	5.66E-12	0.	0.	3.48E-16	0.	0.	6.89E-09	2.60E-08	5.28E-09	3.82E-08
99	0.90 0.	0.	4.54E-12	0.	0.	4.44E-16	0.	0.	9.49E-09	3.00E-08	6.12E-09	4.56E-08
100	0.80 0.	0.	2.10E-12	0.	0.	7.15E-15	0.	0.	1.36E-08	2.96E-08	4.92E-09	4.81E-08
101	0.70 0.	0.	5.60E-13	0.	0.	4.73E-15	0.	0.	2.05E-08	2.97E-08	5.66E-09	5.59E-08
102	0.60 0.	0.	3.07E-14	0.	0.	1.94E-14	0.	0.	3.29E-08	3.35E-08	6.39E-09	7.27E-08

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K.)		900°		DENSITY (GM/CC)		1.293E-09 (1.0E-06 NORMAL)		O- PHOTO-DET (IONS)		FREE-FREE N P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	Q2 S-R CONT.	Q2 R-H NO. 1	NO BETA	NO GAMMA	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 10.70 0.	0.	1.11E-12	0.	0.	0.	0.	0.	1.83E-12	2.74E-13	4.34E-10	1.11E-10	5.48E-10	5.48E-10
2 10.60 0.	0.	9.37E-13	0.	0.	0.	0.	0.	1.84E-12	2.82E-13	4.36E-10	1.11E-10	5.51E-10	5.51E-10
3 10.50 0.	0.	9.07E-13	0.	0.	0.	0.	0.	1.84E-12	2.91E-13	4.38E-10	1.11E-10	5.53E-10	5.53E-10
4 10.40 0.	0.	8.07E-13	0.	0.	0.	0.	0.	1.84E-12	2.99E-13	4.40E-10	1.11E-10	5.54E-10	5.54E-10
5 10.30 0.	0.	6.54E-13	0.	0.	0.	0.	0.	1.84E-12	3.08E-13	4.41E-10	1.11E-10	5.55E-10	5.55E-10
6 10.20 0.	0.	6.45E-13	0.	0.	0.	0.	0.	1.85E-12	3.17E-13	4.42E-10	1.11E-10	5.56E-10	5.56E-10
7 10.10 0.	0.	5.79E-13	0.	0.	0.	0.	0.	1.85E-12	3.27E-13	4.43E-10	1.11E-10	5.57E-10	5.57E-10
8 10.00 0.	0.	4.62E-13	0.	0.	0.	0.	0.	1.86E-12	3.37E-13	4.44E-10	1.11E-10	5.58E-10	5.58E-10
9 9.90 0.	0.	4.66E-13	0.	0.	0.	0.	0.	1.86E-12	3.47E-13	4.46E-10	1.11E-10	5.60E-10	5.60E-10
10 9.80 0.	0.	4.08E-13	0.	0.	0.	0.	0.	1.86E-12	3.58E-13	4.47E-10	1.11E-10	5.61E-10	5.61E-10
11 9.70 0.	0.	3.22E-13	0.	0.	0.	0.	0.	1.86E-12	3.69E-13	4.48E-10	1.11E-10	5.62E-10	5.62E-10
12 9.60 0.	0.	3.45E-13	0.	0.	0.	0.	0.	1.87E-12	3.81E-13	4.49E-10	1.11E-10	5.63E-10	5.63E-10
13 9.50 0.	3.07E-15	2.68E-13	0.	0.	0.	0.	0.	1.87E-12	3.93E-13	4.50E-10	1.11E-10	5.64E-10	5.64E-10
14 9.40 0.	3.78E-15	2.36E-13	0.	0.	0.	0.	0.	1.88E-12	4.06E-13	4.51E-10	1.11E-10	5.65E-10	5.65E-10
15 9.30 0.	4.49E-15	2.37E-13	0.	0.	0.	0.	0.	1.88E-12	4.19E-13	4.52E-10	1.11E-10	5.66E-10	5.66E-10
16 9.20 0.	5.20E-15	1.74E-13	0.	0.	0.	0.	0.	1.89E-12	4.33E-13	4.53E-10	1.11E-10	5.67E-10	5.67E-10
17 9.10 0.	6.22E-15	1.78E-13	0.	0.	0.	0.	0.	1.90E-12	4.47E-13	4.54E-10	1.11E-10	5.68E-10	5.68E-10
18 9.00 0.	7.30E-15	1.49E-13	0.	0.	0.	0.	0.	1.90E-12	4.62E-13	4.55E-10	1.11E-10	5.69E-10	5.69E-10
19 8.90 0.	8.38E-15	1.28E-13	0.	0.	0.	0.	0.	1.91E-12	4.78E-13	4.56E-10	1.11E-10	5.70E-10	5.70E-10
20 8.80 0.	8.68E-15	1.22E-13	0.	0.	0.	0.	0.	1.92E-12	4.95E-13	4.57E-10	1.11E-10	5.71E-10	5.71E-10
21 8.70 0.	8.38E-15	9.53E-14	0.	0.	0.	0.	0.	1.92E-12	5.12E-13	4.58E-10	1.11E-10	5.72E-10	5.72E-10
22 8.60 0.	8.07E-15	9.63E-14	0.	0.	0.	0.	0.	1.93E-12	5.30E-13	4.59E-10	1.11E-10	5.73E-10	5.73E-10
23 8.50 0.	7.86E-15	7.62E-14	0.	0.	0.	0.	0.	1.94E-12	5.49E-13	4.60E-10	1.11E-10	5.74E-10	5.74E-10
24 8.40 0.	7.74E-15	7.33E-14	0.	0.	0.	0.	0.	1.95E-12	5.69E-13	4.61E-10	1.11E-10	5.75E-10	5.75E-10
25 8.30 0.	7.61E-15	5.64E-14	0.	0.	0.	0.	0.	1.96E-12	5.90E-13	4.62E-10	1.11E-10	5.76E-10	5.76E-10
26 8.20 0.	7.42E-15	5.52E-14	0.	0.	0.	0.	0.	1.97E-12	6.12E-13	4.63E-10	1.11E-10	5.77E-10	5.77E-10
27 8.10 0.	7.18E-15	4.35E-14	0.	0.	0.	0.	0.	1.98E-12	6.35E-13	4.64E-10	1.11E-10	5.78E-10	5.78E-10
28 8.00 0.	6.95E-15	4.20E-14	0.	0.	0.	0.	0.	1.99E-12	6.59E-13	4.65E-10	1.11E-10	5.79E-10	5.79E-10
29 7.90 0.	6.70E-15	3.32E-14	0.	0.	0.	0.	0.	2.00E-12	6.85E-13	4.66E-10	1.11E-10	5.80E-10	5.80E-10
30 7.80 0.	6.45E-15	3.29E-14	0.	0.	0.	0.	0.	2.01E-12	7.11E-13	4.67E-10	1.11E-10	5.81E-10	5.81E-10
31 7.70 0.	6.17E-15	2.66E-14	0.	0.	0.	0.	0.	2.02E-12	7.40E-13	4.68E-10	1.11E-10	5.82E-10	5.82E-10
32 7.60 0.	5.88E-15	2.38E-14	0.	0.	0.	0.	0.	2.03E-12	7.69E-13	4.69E-10	1.11E-10	5.83E-10	5.83E-10
33 7.50 0.	5.58E-15	2.04E-14	0.	0.	0.	0.	0.	2.04E-12	8.01E-13	4.70E-10	1.11E-10	5.84E-10	5.84E-10
34 7.40 0.	5.30E-15	1.72E-14	0.	0.	0.	0.	0.	2.05E-12	8.34E-13	4.71E-10	1.11E-10	5.85E-10	5.85E-10
35 7.30 0.	5.02E-15	1.53E-14	0.	0.	0.	0.	0.	2.06E-12	8.69E-13	4.72E-10	1.11E-10	5.86E-10	5.86E-10
36 7.20 0.	4.71E-15	1.28E-14	0.	0.	0.	0.	0.	2.07E-12	9.05E-13	4.73E-10	1.11E-10	5.87E-10	5.87E-10
37 7.10 0.	4.39E-15	1.16E-14	0.	0.	0.	0.	0.	2.09E-12	9.44E-13	4.74E-10	1.11E-10	5.88E-10	5.88E-10
38 7.00 4.87E-18	0.	9.87E-15	0.	0.	0.	0.	0.	2.11E-12	9.86E-13	4.75E-10	1.11E-10	5.89E-10	5.89E-10
39 6.90 9.11E-18	0.	8.46E-15	0.	0.	0.	0.	0.	2.14E-12	1.08E-12	4.76E-10	1.11E-10	5.90E-10	5.90E-10
40 6.80 7.51E-18	0.	7.55E-15	0.	0.	0.	0.	0.	2.16E-12	1.13E-12	4.77E-10	1.11E-10	5.91E-10	5.91E-10
41 6.70 5.20E-18	0.	6.13E-15	0.	0.	0.	0.	0.	2.17E-12	1.18E-12	4.78E-10	1.11E-10	5.92E-10	5.92E-10
42 6.60 1.04E-18	0.	5.10E-15	0.	0.	0.	0.	0.	2.19E-12	1.23E-12	4.79E-10	1.11E-10	5.93E-10	5.93E-10
43 6.50 1.66E-18	0.	3.70E-15	0.	0.	0.	0.	0.	2.21E-12	1.29E-12	4.80E-10	1.11E-10	5.94E-10	5.94E-10
44 6.40 9.84E-19	0.	2.24E-15	0.	0.	0.	0.	0.	2.23E-12	1.35E-12	4.81E-10	1.11E-10	5.95E-10	5.95E-10
45 6.30 4.83E-19	0.	1.21E-15	0.	0.	0.	0.	0.	2.26E-12	1.42E-12	4.82E-10	1.11E-10	5.96E-10	5.96E-10
46 6.20 2.04E-19	0.	5.88E-16	0.	0.	0.	0.	0.	2.28E-12	1.47E-12	4.83E-10	1.11E-10	5.97E-10	5.97E-10
47 6.10 8.71E-20	0.	2.45E-16	0.	0.	0.	0.	0.	2.29E-12	1.52E-12	4.84E-10	1.11E-10	5.98E-10	5.98E-10
48 6.00 3.42E-20	0.	5.74E-17	0.	0.	0.	0.	0.	2.30E-12	1.57E-12	4.85E-10	1.11E-10	5.99E-10	5.99E-10
49 5.90 8.04E-21	0.	4.07E-18	0.	0.	0.	0.	0.	2.31E-12	1.62E-12	4.86E-10	1.11E-10	6.00E-10	6.00E-10
50 5.80 1.01E-21	0.	9.97E-20	0.	0.	0.	0.	0.	2.32E-12	1.67E-12	4.87E-10	1.11E-10	6.01E-10	6.01E-10
51 5.70 7.34E-23	0.	0.	0.	0.	0.	0.	0.	2.33E-12	1.72E-12	4.88E-10	1.11E-10	6.02E-10	6.02E-10



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON, O2 S-R		TEMPERATURE (DEGREES K)		9000°		DENSITY (GM/CC)		1.293E-09 ( 1.0E-06 NORMAL)		FREE-FREE		O-		PHOTO-DET (IONS)		N		U		TOTAL AIR	
ENERGY BANDS		1ST POS.		2ND POS.		1ST NEG.		2ND POS.		1ST NEG.		2ND POS.		1ST NEG.		2ND POS.		1ST NEG.		2ND POS.	
52	5.60	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
53	5.50	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
54	5.40	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	5.30	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	5.20	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	5.10	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	5.00	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	4.90	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	4.80	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	4.70	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	4.60	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
63	4.50	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
64	4.40	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
65	4.30	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
66	4.20	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
67	4.10	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
68	4.00	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
69	3.90	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	3.80	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	3.70	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
72	3.60	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
73	3.50	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
74	3.40	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
75	3.30	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
76	3.20	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
77	3.10	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
78	3.00	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
79	2.90	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	2.80	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
81	2.70	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82	2.60	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
83	2.50	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
84	2.40	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85	2.30	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
86	2.20	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87	2.10	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
88	2.00	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
89	1.90	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90	1.80	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
91	1.70	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92	1.60	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
93	1.50	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
94	1.40	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	3.25E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 10000.										DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)											
PHOTON ENERGY BANDS		02 S-R CONT.		N2 B-H NO. 1		NO BETA		NO GAMMA		NO 2		U- PHOTO-DET (IONS)		FREE-FREE (IONS)		N P.E.		O P.E.		TOTAL AIR	
1	10.70 0.	0.	0.	3.05E 01	0.	0.	0.	0.	0.	0.	0.	4.59E-01	8.68E-05	2.41E 01	8.27E-03	5.51E 01	01	0.	0.	0.	
2	10.60 0.	0.	0.	2.67E 01	0.	0.	0.	0.	0.	0.	0.	4.60E-01	8.93E-05	1.60E-02	8.27E-03	2.67E 01	01	0.	0.	0.	
3	10.50 0.	0.	0.	2.56E 01	0.	0.	0.	0.	0.	0.	0.	4.60E-01	9.19E-05	1.61E-02	8.26E-03	2.61E 01	01	0.	0.	0.	
4	10.40 0.	0.	0.	2.31E 01	0.	0.	0.	0.	0.	0.	0.	4.61E-01	9.46E-05	1.62E-02	8.25E-03	2.35E 01	01	0.	0.	0.	
5	10.30 0.	0.	0.	1.90E 01	0.	0.	0.	0.	0.	0.	0.	4.61E-01	9.74E-05	1.62E-02	8.25E-03	1.95E 01	01	0.	0.	0.	
6	10.20 0.	0.	0.	1.89E 01	0.	0.	0.	0.	0.	0.	0.	4.62E-01	1.00E-04	1.63E-02	8.24E-03	1.94E 01	01	0.	0.	0.	
7	10.10 0.	0.	0.	1.71E 01	0.	0.	0.	0.	0.	0.	0.	4.63E-01	1.03E-04	1.63E-02	8.23E-03	1.76E 01	01	0.	0.	0.	
8	10.00 0.	0.	0.	1.39E 01	0.	0.	0.	0.	0.	0.	0.	4.63E-01	1.06E-04	1.64E-02	8.22E-03	1.44E 01	01	0.	0.	0.	
9	9.90 0.	0.	0.	1.41E 01	0.	0.	0.	0.	0.	0.	0.	4.64E-01	1.10E-04	1.64E-02	8.22E-03	1.46E 01	01	0.	0.	0.	
10	9.80 0.	0.	0.	1.25E 01	0.	0.	0.	0.	0.	0.	0.	4.65E-01	1.13E-04	1.64E-02	8.21E-03	1.30E 01	01	0.	0.	0.	
11	9.70 0.	0.	0.	1.01E 01	0.	0.	0.	0.	0.	0.	0.	4.66E-01	1.17E-04	1.65E-02	8.20E-03	1.06E 01	01	0.	0.	0.	
12	9.60 0.	0.	0.	1.08E 01	0.	0.	0.	0.	0.	0.	0.	4.67E-01	1.20E-04	1.65E-02	8.20E-03	1.13E 01	01	0.	0.	0.	
13	9.50 0.	5.36E-01	8.56E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.68E-01	1.24E-04	1.66E-02	8.19E-03	9.59E 00	00	0.	0.	0.	
14	9.40 0.	7.23E-01	7.66E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.69E-01	1.28E-04	1.66E-02	8.18E-03	8.88E 00	00	0.	0.	0.	
15	9.30 0.	9.09E-01	7.73E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.71E-01	1.32E-04	1.67E-02	8.17E-03	9.13E 00	00	0.	0.	0.	
16	9.20 0.	1.10E 00	5.81E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.73E-01	1.37E-04	1.67E-02	8.17E-03	7.40E 00	00	0.	0.	0.	
17	9.10 0.	1.31E 00	5.94E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.74E-01	1.41E-04	1.69E-03	8.16E-03	7.73E 00	00	0.	0.	0.	
18	9.00 0.	1.52E 00	5.07E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.76E-01	1.46E-04	1.58E-03	8.15E-03	7.08E 00	00	0.	0.	0.	
19	8.90 0.	1.73E 00	4.42E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.78E-01	1.51E-04	1.57E-03	8.15E-03	6.64E 00	00	0.	0.	0.	
20	8.80 0.	1.79E 00	4.23E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.79E-01	1.56E-04	1.56E-03	8.14E-03	6.51E 00	00	0.	0.	0.	
21	8.70 0.	1.72E 00	3.39E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.81E-01	1.62E-04	1.56E-03	8.13E-03	5.60E 00	00	0.	0.	0.	
22	8.60 0.	1.66E 00	3.43E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.83E-01	1.68E-04	1.55E-03	8.13E-03	5.58E 00	00	0.	0.	0.	
23	8.50 0.	1.62E 00	2.77E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.85E-01	1.74E-04	1.54E-03	8.12E-03	4.89E 00	00	0.	0.	0.	
24	8.40 0.	1.60E 00	2.68E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.87E-01	1.80E-04	1.53E-03	8.12E-03	4.79E 00	00	0.	0.	0.	
25	8.30 0.	1.59E 00	2.11E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.90E-01	1.87E-04	1.53E-03	8.14E-03	4.20E 00	00	0.	0.	0.	
26	8.20 0.	1.56E 00	2.08E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.92E-01	1.94E-04	1.52E-03	8.20E-03	4.14E 00	00	0.	0.	0.	
27	8.10 0.	1.51E 00	1.67E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.95E-01	2.01E-04	1.50E-03	8.27E-03	3.69E 00	00	0.	0.	0.	
28	8.00 0.	1.46E 00	1.63E 00	0.	0.	0.	0.	0.	0.	0.	0.	4.97E-01	2.08E-04	1.50E-03	8.34E-03	3.60E 00	00	0.	0.	0.	
29	7.90 0.	1.42E 00	1.31E 00	0.	0.	0.	0.	0.	0.	0.	0.	5.00E-01	2.17E-04	1.49E-03	8.41E-03	3.24E 00	00	0.	0.	0.	
30	7.80 0.	1.38E 00	1.31E 00	0.	0.	0.	0.	0.	0.	0.	0.	5.02E-01	2.25E-04	1.49E-03	8.48E-03	3.20E 00	00	0.	0.	0.	
31	7.70 0.	1.33E 00	1.07E 00	0.	0.	0.	0.	0.	0.	0.	0.	5.05E-01	2.34E-04	1.49E-03	8.55E-03	2.92E 00	00	0.	0.	0.	
32	7.60 0.	1.27E 00	9.74E-01	0.	1.44E-04	0.	0.	0.	0.	0.	0.	5.07E-01	2.43E-04	1.49E-03	8.62E-03	2.76E 00	00	0.	0.	0.	
33	7.50 0.	1.20E 00	9.48E-01	0.	7.46E-04	0.	0.	0.	0.	0.	0.	5.10E-01	2.53E-04	1.48E-03	8.69E-03	2.57E 00	00	0.	0.	0.	
34	7.40 0.	1.14E 00	7.25E-01	0.	3.81E-03	0.	0.	0.	0.	0.	0.	5.13E-01	2.64E-04	1.48E-03	8.76E-03	2.40E 00	00	0.	0.	0.	
35	7.30 0.	1.09E 00	6.51E-01	0.	1.94E-02	0.	0.	0.	0.	0.	0.	5.16E-01	2.75E-04	1.48E-03	8.83E-03	2.29E 00	00	0.	0.	0.	
36	7.20 0.	1.03E 00	5.56E-01	0.	5.22E-02	0.	0.	0.	0.	0.	0.	5.19E-01	2.86E-04	1.48E-03	8.89E-03	2.17E 00	00	0.	0.	0.	
37	7.10 0.	9.66E-01	5.08E-01	0.	1.37E-01	0.	0.	0.	0.	0.	0.	5.23E-01	2.99E-04	1.47E-03	8.96E-03	2.15E 00	00	0.	0.	0.	
38	7.00 8.41E-04	0.	4.40E-01	0.	3.75E-01	0.	0.	0.	0.	0.	0.	5.27E-01	3.12E-04	1.47E-03	9.03E-03	1.36E 00	00	0.	0.	0.	
39	6.90 1.59E-03	0.	3.82E-01	0.	3.75E-01	0.	0.	0.	0.	0.	0.	5.31E-01	3.26E-04	1.47E-03	9.10E-03	1.30E 00	00	0.	0.	0.	
40	6.80 1.32E-03	0.	3.47E-01	0.	7.96E-01	0.	0.	0.	0.	0.	0.	5.36E-01	3.40E-04	1.47E-03	9.17E-03	1.69E 00	00	0.	0.	0.	
41	6.70 9.24E-04	0.	2.86E-01	0.	9.79E-01	0.	0.	0.	0.	0.	0.	5.40E-01	3.56E-04	1.46E-03	9.25E-03	1.82E 00	00	0.	0.	0.	
42	6.60 5.44E-04	0.	2.41E-01	0.	5.82E-01	0.	0.	0.	0.	0.	0.	5.44E-01	3.72E-04	1.48E-03	9.33E-03	1.38E 00	00	0.	0.	0.	
43	6.50 3.01E-04	0.	1.78E-01	0.	1.06E 00	0.	0.	0.	0.	0.	0.	5.48E-01	3.90E-04	1.49E-03	9.41E-03	1.80E 00	00	0.	0.	0.	
44	6.40 1.63E-04	0.	1.11E-01	0.	6.31E-03	0.	0.	0.	0.	0.	0.	5.53E-01	4.08E-04	1.51E-03	9.48E-03	1.91E 00	00	0.	0.	0.	
45	6.30 8.98E-05	0.	6.14E-02	0.	2.76E-02	0.	0.	0.	0.	0.	0.	5.57E-01	4.28E-04	1.53E-03	9.59E-03	1.29E 00	00	0.	0.	0.	
46	6.20 3.85E-05	0.	3.09E-02	0.	3.67E-02	0.	0.	0.	0.	0.	0.	5.61E-01	4.49E-04	1.55E-03	9.75E-03	1.61E 00	00	0.	0.	0.	
47	6.10 1.67E-05	0.	1.32E-02	0.	1.00E-01	0.	0.	0.	0.	0.	0.	5.65E-01	4.71E-04	1.58E-03	9.91E-03	2.17E 00	00	0.	0.	0.	
48	6.00 6.63E-06	0.	3.15E-03	0.	8.59E-02	0.	0.	0.	0.	0.	0.	5.70E-01	4.95E-04	1.63E-03	1.01E-02	1.23E 00	00	0.	0.	0.	
49	5.90 1.57E-06	0.	2.24E-04	0.	1.22E-01	0.	0.	0.	0.	0.	0.	5.70E-01	5.21E-04	1.67E-03	1.02E-02	1.30E 00	00	0.	0.	0.	
50	5.80 1.94E-07	0.	5.52E-06	0.	1.64E-01	0.	0.	0.	0.	0.	0.	5.61E-01	5.49E-04	1.72E-03	1.04E-02	1.30E 00	00	0.	0.	0.	
51	5.70 1.45E-08	0.	0.	0.	1.78E-01	0.	0.	0.	0.	0.	0.	5.27E-01	5.78E-04	1.76E-03	1.06E-02	1.32E 00	00	0.	0.	0.	

## ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)				TOTAL AIR			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.				2ND POS.				1ST NEG.				BETA			
N2				N2				N2				N2			
1ST POS.															

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		10000.	DENSITY (GM/CC)		1.293E-03 (1.0E 00 NORMAL)		FREE-FREE		PHOTO-DET		N		P.E.		TOTAL AIR	
PHOTON ENERGY L.V.	U2 S-K CONT.	N2 B-H NC. 1	NU BETA	NO GAMMA	NO 2	U-	FREE-FREE	PHOTO-DET	N	P.E.	0	P.E.	0	P.E.	0	P.E.
1 10.70 0.	0.	1.37E 00	0.	0.	0.	1.31E-02	5.56E-06	5.11E 00	9.07E-04	9.07E-04	9.07E-04	9.07E-04	9.07E-04	9.07E-04	9.07E-04	9.07E-04
2 10.60 0.	0.	1.18E 00	0.	0.	0.	1.31E-02	5.72E-06	3.40E-03	9.06E-04	9.06E-04	9.06E-04	9.06E-04	9.06E-04	9.06E-04	9.06E-04	9.06E-04
3 10.50 0.	0.	1.15E 00	0.	0.	0.	1.32E-02	5.89E-06	3.42E-03	9.05E-04	9.05E-04	9.05E-04	9.05E-04	9.05E-04	9.05E-04	9.05E-04	9.05E-04
4 10.40 0.	0.	1.04E 00	0.	0.	0.	1.32E-02	6.06E-06	3.43E-03	9.04E-04	9.04E-04	9.04E-04	9.04E-04	9.04E-04	9.04E-04	9.04E-04	9.04E-04
5 10.30 0.	0.	8.55E-01	0.	0.	0.	1.32E-02	6.24E-06	3.44E-03	9.04E-04	9.04E-04	9.04E-04	9.04E-04	9.04E-04	9.04E-04	9.04E-04	9.04E-04
6 10.20 0.	0.	8.50E-01	0.	0.	0.	1.32E-02	6.42E-06	3.45E-03	9.03E-04	9.03E-04	9.03E-04	9.03E-04	9.03E-04	9.03E-04	9.03E-04	9.03E-04
7 10.10 0.	0.	7.71E-01	0.	0.	0.	1.32E-02	6.62E-06	3.46E-03	9.02E-04	9.02E-04	9.02E-04	9.02E-04	9.02E-04	9.02E-04	9.02E-04	9.02E-04
8 10.00 0.	0.	6.27E-01	0.	0.	0.	1.33E-02	6.82E-06	3.47E-03	9.01E-04	9.01E-04	9.01E-04	9.01E-04	9.01E-04	9.01E-04	9.01E-04	9.01E-04
9 9.90 0.	0.	6.34E-01	0.	0.	0.	1.33E-02	7.03E-06	3.48E-03	9.00E-04	9.00E-04	9.00E-04	9.00E-04	9.00E-04	9.00E-04	9.00E-04	9.00E-04
10 9.80 0.	0.	5.64E-01	0.	0.	0.	1.33E-02	7.25E-06	3.49E-03	8.99E-04	8.99E-04	8.99E-04	8.99E-04	8.99E-04	8.99E-04	8.99E-04	8.99E-04
11 9.70 0.	0.	4.54E-01	0.	0.	0.	1.33E-02	7.47E-06	3.49E-03	8.98E-04	8.98E-04	8.98E-04	8.98E-04	8.98E-04	8.98E-04	8.98E-04	8.98E-04
12 9.60 0.	0.	4.87E-01	0.	0.	0.	1.34E-02	7.71E-06	3.50E-03	8.97E-04	8.97E-04	8.97E-04	8.97E-04	8.97E-04	8.97E-04	8.97E-04	8.97E-04
13 9.50 0.	6.58E-03	3.86E-01	0.	0.	0.	1.34E-02	7.96E-06	3.51E-03	8.96E-04	8.96E-04	8.96E-04	8.96E-04	8.96E-04	8.96E-04	8.96E-04	8.96E-04
14 9.40 0.	8.87E-03	3.45E-01	0.	0.	0.	1.34E-02	8.22E-06	3.52E-03	8.95E-04	8.95E-04	8.95E-04	8.95E-04	8.95E-04	8.95E-04	8.95E-04	8.95E-04
15 9.30 0.	1.12E-02	3.48E-01	0.	0.	0.	1.35E-02	8.48E-06	3.53E-03	8.94E-04	8.94E-04	8.94E-04	8.94E-04	8.94E-04	8.94E-04	8.94E-04	8.94E-04
16 9.20 0.	1.35E-02	2.62E-01	0.	0.	0.	1.35E-02	8.77E-06	3.54E-03	8.93E-04	8.93E-04	8.93E-04	8.93E-04	8.93E-04	8.93E-04	8.93E-04	8.93E-04
17 9.10 0.	1.60E-02	2.67E-01	0.	0.	0.	1.36E-02	9.06E-06	3.55E-04	8.92E-04	8.92E-04	8.92E-04	8.92E-04	8.92E-04	8.92E-04	8.92E-04	8.92E-04
18 9.00 0.	1.86E-02	2.28E-01	0.	0.	0.	1.36E-02	9.37E-06	3.56E-04	8.91E-04	8.91E-04	8.91E-04	8.91E-04	8.91E-04	8.91E-04	8.91E-04	8.91E-04
19 8.90 0.	2.13E-02	1.99E-01	0.	0.	0.	1.37E-02	9.69E-06	3.57E-04	8.90E-04	8.90E-04	8.90E-04	8.90E-04	8.90E-04	8.90E-04	8.90E-04	8.90E-04
20 8.80 0.	2.20E-02	1.90E-01	0.	0.	0.	1.37E-02	1.00E-05	3.58E-04	8.89E-04	8.89E-04	8.89E-04	8.89E-04	8.89E-04	8.89E-04	8.89E-04	8.89E-04
21 8.70 0.	2.12E-02	1.52E-01	0.	0.	0.	1.38E-02	1.04E-05	3.59E-04	8.88E-04	8.88E-04	8.88E-04	8.88E-04	8.88E-04	8.88E-04	8.88E-04	8.88E-04
22 8.60 0.	2.04E-02	1.54E-01	0.	0.	0.	1.38E-02	1.07E-05	3.60E-04	8.87E-04	8.87E-04	8.87E-04	8.87E-04	8.87E-04	8.87E-04	8.87E-04	8.87E-04
23 8.50 0.	1.99E-02	1.25E-01	0.	0.	0.	1.39E-02	1.11E-05	3.61E-04	8.86E-04	8.86E-04	8.86E-04	8.86E-04	8.86E-04	8.86E-04	8.86E-04	8.86E-04
24 8.40 0.	1.95E-02	1.21E-01	0.	0.	0.	1.40E-02	1.15E-05	3.62E-04	8.85E-04	8.85E-04	8.85E-04	8.85E-04	8.85E-04	8.85E-04	8.85E-04	8.85E-04
25 8.30 0.	1.91E-02	9.50E-02	0.	0.	0.	1.41E-02	1.24E-05	3.63E-04	8.84E-04	8.84E-04	8.84E-04	8.84E-04	8.84E-04	8.84E-04	8.84E-04	8.84E-04
26 8.20 0.	1.91E-02	9.35E-02	0.	0.	0.	1.42E-02	1.29E-05	3.64E-04	8.83E-04	8.83E-04	8.83E-04	8.83E-04	8.83E-04	8.83E-04	8.83E-04	8.83E-04
27 8.10 0.	1.85E-02	7.51E-02	0.	0.	0.	1.42E-02	1.34E-05	3.65E-04	8.82E-04	8.82E-04	8.82E-04	8.82E-04	8.82E-04	8.82E-04	8.82E-04	8.82E-04
28 8.00 0.	1.80E-02	7.32E-02	0.	0.	0.	1.43E-02	1.39E-05	3.66E-04	8.81E-04	8.81E-04	8.81E-04	8.81E-04	8.81E-04	8.81E-04	8.81E-04	8.81E-04
29 7.90 0.	1.75E-02	5.88E-02	0.	0.	0.	1.44E-02	1.44E-05	3.67E-04	8.80E-04	8.80E-04	8.80E-04	8.80E-04	8.80E-04	8.80E-04	8.80E-04	8.80E-04
30 7.80 0.	1.70E-02	5.89E-02	0.	0.	0.	1.44E-02	1.50E-05	3.68E-04	8.79E-04	8.79E-04	8.79E-04	8.79E-04	8.79E-04	8.79E-04	8.79E-04	8.79E-04
31 7.70 0.	1.63E-02	4.84E-02	0.	0.	0.	1.45E-02	1.56E-05	3.69E-04	8.78E-04	8.78E-04	8.78E-04	8.78E-04	8.78E-04	8.78E-04	8.78E-04	8.78E-04
32 7.60 0.	1.55E-02	4.38E-02	0.	0.	0.	1.46E-02	1.62E-05	3.70E-04	8.77E-04	8.77E-04	8.77E-04	8.77E-04	8.77E-04	8.77E-04	8.77E-04	8.77E-04
33 7.50 0.	1.48E-02	3.82E-02	0.	0.	0.	1.47E-02	1.69E-05	3.71E-04	8.76E-04	8.76E-04	8.76E-04	8.76E-04	8.76E-04	8.76E-04	8.76E-04	8.76E-04
34 7.40 0.	1.41E-02	3.26E-02	0.	0.	0.	1.48E-02	1.76E-05	3.72E-04	8.75E-04	8.75E-04	8.75E-04	8.75E-04	8.75E-04	8.75E-04	8.75E-04	8.75E-04
35 7.30 0.	1.34E-02	2.93E-02	0.	0.	0.	1.48E-02	1.83E-05	3.73E-04	8.74E-04	8.74E-04	8.74E-04	8.74E-04	8.74E-04	8.74E-04	8.74E-04	8.74E-04
36 7.20 0.	1.26E-02	2.50E-02	0.	0.	0.	1.48E-02	1.91E-05	3.74E-04	8.73E-04	8.73E-04	8.73E-04	8.73E-04	8.73E-04	8.73E-04	8.73E-04	8.73E-04
37 7.10 0.	1.19E-02	2.28E-02	0.	0.	0.	1.50E-02	2.00E-05	3.75E-04	8.72E-04	8.72E-04	8.72E-04	8.72E-04	8.72E-04	8.72E-04	8.72E-04	8.72E-04
38 7.00 0.	1.01E-05	1.98E-02	0.	0.	0.	1.51E-02	2.09E-05	3.76E-04	8.71E-04	8.71E-04	8.71E-04	8.71E-04	8.71E-04	8.71E-04	8.71E-04	8.71E-04
39 6.90 0.	1.91E-05	1.72E-02	0.	0.	0.	1.52E-02	2.18E-05	3.77E-04	8.70E-04	8.70E-04	8.70E-04	8.70E-04	8.70E-04	8.70E-04	8.70E-04	8.70E-04
40 6.80 0.	1.54E-05	1.56E-02	0.	0.	0.	1.53E-02	2.28E-05	3.78E-04	8.69E-04	8.69E-04	8.69E-04	8.69E-04	8.69E-04	8.69E-04	8.69E-04	8.69E-04
41 6.70 0.	1.11E-05	1.29E-02	0.	0.	0.	1.54E-02	2.38E-05	3.79E-04	8.68E-04	8.68E-04	8.68E-04	8.68E-04	8.68E-04	8.68E-04	8.68E-04	8.68E-04
42 6.60 0.	6.53E-06	1.09E-02	0.	0.	0.	1.56E-02	2.50E-05	3.80E-04	8.67E-04	8.67E-04	8.67E-04	8.67E-04	8.67E-04	8.67E-04	8.67E-04	8.67E-04
43 6.50 0.	3.62E-06	8.03E-03	0.	0.	0.	1.58E-02	2.61E-05	3.81E-04	8.66E-04	8.66E-04	8.66E-04	8.66E-04	8.66E-04	8.66E-04	8.66E-04	8.66E-04
44 6.40 0.	1.96E-06	5.00E-03	0.	0.	0.	1.59E-02	2.74E-05	3.82E-04	8.65E-04	8.65E-04	8.65E-04	8.65E-04	8.65E-04	8.65E-04	8.65E-04	8.65E-04
45 6.30 0.	1.02E-06	2.79E-03	0.	0.	0.	1.60E-02	2.88E-05	3.83E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04	8.64E-04
46 6.20 0.	4.63E-07	1.39E-03	0.	0.	0.	1.62E-02	3.02E-05	3.84E-04	8.63E-04	8.63E-04	8.63E-04	8.63E-04	8.63E-04	8.63E-04	8.63E-04	8.63E-04
47 6.10 0.	2.0E-07	5.94E-04	0.	0.	0.	1.63E-02	3.17E-05	3.85E-04	8.62E-04	8.62E-04	8.62E-04	8.62E-04	8.62E-04	8.62E-04	8.62E-04	8.62E-04
48 6.00 0.	7.97E-08	1.42E-04	0.	0.	0.	1.63E-02	3.34E-05	3.86E-04	8.61E-04	8.61E-04	8.61E-04	8.61E-04	8.61E-04	8.61E-04	8.61E-04	8.61E-04
49 5.90 0.	1.89E-08	1.01E-05	0.	0.	0.	1.63E-02	3.51E-05	3.87E-04	8.60E-04	8.60E-04	8.60E-04	8.60E-04	8.60E-04	8.60E-04	8.60E-04	8.60E-04
50 5.80 0.	2.36E-09	2.48E-07	0.	0.	0.	1.60E-02	3.70E-05	3.88E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04
51 5.70 0.	1.75E-10	0.	0.	0.	0.	1.51E-02	3.70E-05	3.89E-04	8.58E-04	8.58E-04	8.58E-04	8.58E-04	8.58E-04	8.58E-04	8.58E-04	8.58E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-03 (1.0E 00 NORMAL)		FREE-FREE		PHOTO-DET		N		P.E.		TOTAL AIR	
PHOTON ENERGY	Q2 S-R BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIR-ROT	NO 2	Q- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.			
52	5.60 7.72E-12	0.	0.	0.	3.15E-03	2.17E-02	0.	0.	1.40E-02	3.91E-05	1.02E-03	1.18E-03	4.11E-02		
53	5.50 0.	0.	0.	0.	3.87E-03	2.00E-02	0.	0.	1.41E-02	4.12E-05	1.03E-03	1.19E-03	4.10E-02		
54	5.40 0.	0.	0.	0.	3.29E-03	1.41E-02	0.	0.	1.42E-02	4.36E-05	1.05E-03	1.21E-03	3.38E-02		
55	5.30 0.	0.	0.	0.	3.39E-03	2.04E-02	0.	0.	1.43E-02	4.61E-05	1.07E-03	1.24E-03	4.04E-02		
56	5.20 0.	0.	0.	0.	3.52E-03	1.21E-02	0.	0.	1.43E-02	4.89E-05	1.09E-03	1.26E-03	3.24E-02		
57	5.10 0.	0.	0.	0.	3.42E-03	1.65E-02	0.	0.	1.45E-02	5.18E-05	1.12E-03	1.29E-03	3.68E-02		
58	5.00 9.24E-05	0.	0.	0.	3.01E-03	1.44E-02	0.	0.	1.46E-02	5.50E-05	1.15E-03	1.32E-03	3.45E-02		
59	4.90 2.1E-04	0.	0.	0.	3.24E-03	1.32E-02	0.	0.	1.47E-02	5.84E-05	1.18E-03	1.35E-03	3.52E-02		
60	4.80 3.67E-04	0.	0.	0.	3.41E-03	1.13E-02	0.	0.	1.48E-02	6.22E-05	1.21E-03	1.38E-03	3.45E-02		
61	4.70 4.62E-04	0.	0.	0.	3.25E-03	1.05E-02	0.	0.	1.50E-02	6.63E-05	1.24E-03	1.41E-03	3.27E-02		
62	4.60 5.96E-04	0.	0.	0.	3.24E-03	1.05E-02	0.	0.	1.51E-02	7.07E-05	1.28E-03	1.45E-03	3.22E-02		
63	4.50 5.97E-04	0.	7.05E-04	0.	2.81E-03	7.50E-03	0.	0.	1.52E-02	7.55E-05	1.33E-03	1.48E-03	2.97E-02		
64	4.40 6.03E-04	0.	2.53E-03	0.	2.74E-03	5.50E-03	0.	0.	1.53E-02	8.08E-05	1.38E-03	1.52E-03	2.97E-02		
65	4.30 5.4E-04	0.	6.28E-03	0.	2.48E-03	3.13E-03	0.	0.	1.54E-02	8.67E-05	1.43E-03	1.56E-03	3.09E-02		
66	4.20 4.85E-04	0.	2.52E-02	0.	2.57E-03	2.47E-03	0.	0.	1.56E-02	9.30E-05	1.48E-03	1.59E-03	4.95E-02		
67	4.10 4.37E-04	0.	7.96E-03	0.	2.38E-03	6.38E-04	0.	0.	1.56E-02	1.00E-04	1.53E-03	1.62E-03	3.03E-02		
68	4.00 3.85E-04	0.	3.54E-02	0.	2.21E-03	4.88E-04	0.	0.	1.57E-02	1.08E-04	1.58E-03	2.75E-04	5.62E-02		
69	3.90 3.09E-04	0.	1.57E-02	6.51E-04	1.89E-03	2.09E-04	0.	0.	1.56E-02	1.16E-04	1.31E-03	2.83E-04	3.61E-02		
70	3.80 3.31E-04	0.	2.24E-02	4.44E-03	2.00E-03	0.	0.	0.	1.56E-02	1.26E-04	1.35E-03	2.92E-04	4.65E-02		
71	3.70 2.73E-04	0.	2.87E-02	1.07E-03	1.55E-03	0.	0.	0.	1.53E-02	1.36E-04	1.04E-03	3.28E-04	4.84E-02		
72	3.60 2.36E-04	0.	1.52E-02	6.80E-03	1.69E-03	0.	0.	0.	1.43E-02	1.48E-04	1.13E-03	3.70E-04	3.99E-02		
73	3.50 2.10E-04	0.	2.33E-02	2.04E-02	1.21E-03	0.	0.	0.	1.31E-02	1.61E-04	1.10E-03	4.14E-04	5.99E-02		
74	3.40 1.81E-04	0.	1.17E-02	1.57E-03	1.34E-03	0.	0.	0.	7.58E-03	1.76E-04	1.24E-03	4.62E-04	2.73E-02		
75	3.30 1.4E-04	0.	1.27E-02	8.63E-03	9.88E-04	0.	0.	0.	7.59E-03	1.92E-04	1.38E-03	5.11E-04	3.22E-02		
76	3.20 1.15E-04	0.	7.23E-03	2.16E-02	1.01E-03	0.	0.	0.	7.60E-03	2.11E-04	1.53E-03	5.62E-04	3.99E-02		
77	3.10 1.04E-04	0.	5.54E-03	2.45E-03	8.97E-04	0.	0.	0.	7.62E-03	2.32E-04	1.67E-03	6.12E-04	1.91E-02		
78	3.00 8.81E-05	0.	3.13E-03	5.63E-03	7.93E-04	0.	0.	0.	7.64E-03	2.57E-04	1.82E-03	6.63E-04	2.30E-02		
79	2.90 6.94E-05	0.	1.87E-03	5.63E-03	5.48E-04	0.	0.	0.	7.65E-03	2.84E-04	1.97E-03	7.14E-04	1.87E-02		
80	2.80 6.92E-05	0.	8.77E-04	2.13E-03	3.35E-04	0.	0.	0.	7.66E-03	3.16E-04	2.13E-03	7.69E-04	1.43E-02		
81	2.70 4.06E-05	0.	4.02E-04	4.19E-03	1.62E-04	0.	0.	0.	7.66E-03	3.53E-04	2.30E-03	8.29E-04	1.59E-02		
82	2.60 1.70E-05	0.	2.05E-04	3.91E-04	6.38E-05	0.	0.	0.	7.66E-03	3.96E-04	2.49E-03	8.90E-04	1.21E-02		
83	2.50 1.14E-06	0.	2.57E-05	3.04E-04	1.42E-05	0.	0.	0.	7.66E-03	4.46E-04	2.80E-03	3.45E-04	1.16E-02		
84	2.40 0.	0.	1.49E-03	3.35E-04	1.43E-06	0.	0.	0.	7.66E-03	5.04E-04	3.22E-03	4.22E-04	1.36E-02		
85	2.30 0.	0.	6.47E-03	0.	0.	0.	0.	0.	7.60E-03	5.74E-04	3.22E-03	5.06E-04	1.73E-02		
86	2.20 0.	0.	1.40E-02	0.	0.	0.	0.	0.	7.57E-03	6.56E-04	2.50E-03	6.10E-04	2.54E-02		
87	2.10 0.	0.	1.92E-02	0.	0.	0.	0.	0.	7.54E-03	7.55E-04	2.92E-03	7.14E-04	3.11E-02		
88	2.00 0.	0.	3.22E-02	0.	0.	0.	0.	0.	7.30E-03	8.75E-04	3.33E-03	8.18E-04	4.45E-02		
89	1.90 0.	0.	5.98E-02	0.	0.	0.	0.	0.	7.02E-03	1.02E-03	3.77E-03	9.27E-04	7.25E-02		
90	1.80 0.	0.	4.87E-02	0.	0.	0.	0.	0.	6.71E-03	1.20E-03	4.43E-03	1.10E-03	6.21E-02		
91	1.70 0.	0.	5.89E-02	0.	0.	0.	0.	0.	6.32E-03	1.43E-03	5.25E-03	1.33E-03	7.32E-02		
92	1.60 0.	0.	4.12E-02	0.	0.	0.	0.	0.	5.35E-03	1.72E-03	6.07E-03	1.55E-03	5.59E-02		
93	1.50 0.	0.	5.06E-02	0.	0.	0.	0.	0.	2.43E-03	2.09E-03	7.57E-03	1.86E-03	6.45E-02		
94	1.40 0.	0.	5.30E-02	0.	0.	0.	0.	0.	0.	2.58E-03	9.17E-03	2.14E-03	6.69E-02		
95	1.30 0.	0.	3.93E-02	0.	0.	0.	0.	0.	0.	3.23E-03	1.12E-02	2.77E-03	5.66E-02		
96	1.20 0.	0.	3.95E-02	0.	0.	0.	0.	0.	0.	4.13E-03	1.06E-02	2.57E-03	5.68E-02		
97	1.10 0.	0.	3.31E-02	0.	0.	0.	2.06E-07	0.	0.	5.38E-03	1.30E-02	3.21E-03	5.47E-02		
98	1.00 0.	0.	3.06E-02	0.	0.	0.	1.90E-06	0.	0.	7.19E-03	1.57E-02	3.53E-03	5.71E-02		
99	0.90 0.	0.	2.48E-02	0.	0.	0.	2.32E-06	0.	0.	9.90E-03	1.77E-02	4.15E-03	5.66E-02		
100	0.80 0.	0.	1.16E-02	0.	0.	0.	4.05E-05	0.	0.	1.42E-02	2.03E-02	4.78E-03	5.10E-02		
101	0.70 0.	0.	3.01E-03	0.	0.	0.	2.79E-05	0.	0.	2.15E-02	2.25E-02	5.31E-03	5.24E-02		
102	0.60 0.	0.	2.11E-04	0.	0.	0.	1.11E-04	0.	0.	3.43E-02	2.51E-02	5.92E-03	6.57E-02		

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000..				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)	FREE-FREE (IONS)				TOTAL AIR	
PHOTO: 02 S-R ENERGY BANDS E.V.	02 S-R CONT.	12 H-H NO. 1	NO RETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	N P.E.	O P.E.		
1 10.70	0.	2.45E-02	0.	0.	0.	4.09E-04	5.16E-07	6.83E-01	9.24E-05	7.08E-01
2 10.60	0.	2.11E-02	0.	0.	0.	4.10E-04	5.31E-07	4.55E-04	9.24E-05	2.20E-02
3 10.50	0.	2.06E-02	0.	0.	0.	4.10E-04	5.46E-07	4.57E-04	9.23E-05	2.15E-02
4 10.40	0.	1.95E-02	0.	0.	0.	4.11E-04	5.62E-07	4.59E-04	9.22E-05	1.95E-02
5 10.30	0.	1.52E-02	0.	0.	0.	4.11E-04	5.79E-07	4.60E-04	9.21E-05	1.62E-02
6 10.20	0.	1.52E-02	0.	0.	0.	4.12E-04	5.96E-07	4.61E-04	9.20E-05	1.61E-02
7 10.10	0.	1.38E-02	0.	0.	0.	4.12E-04	6.14E-07	4.62E-04	9.20E-05	1.47E-02
8 10.00	0.	1.17E-02	0.	0.	0.	4.13E-04	6.33E-07	4.63E-04	9.19E-05	1.22E-02
9 9.90	0.	1.13E-02	0.	0.	0.	4.14E-04	6.52E-07	4.64E-04	9.18E-05	1.23E-02
10 9.80	0.	1.01E-02	0.	0.	0.	4.15E-04	6.72E-07	4.66E-04	9.17E-05	1.10E-02
11 9.70	0.	8.10E-03	0.	0.	0.	4.15E-04	6.93E-07	4.67E-04	9.16E-05	9.07E-03
12 9.60	0.	8.69E-03	0.	0.	0.	4.16E-04	7.15E-07	4.68E-04	9.16E-05	9.66E-03
13 9.50	6.79E-05	6.68E-03	0.	0.	0.	4.17E-04	7.38E-07	4.69E-04	9.15E-05	7.92E-03
14 9.40	9.16E-05	6.15E-03	0.	0.	0.	4.18E-04	7.62E-07	4.71E-04	9.14E-05	7.23E-03
15 9.30	1.15E-04	6.20E-03	0.	0.	0.	4.20E-04	7.87E-07	4.72E-04	9.13E-05	7.30E-03
16 9.20	1.39E-04	4.67E-03	0.	0.	0.	4.21E-04	8.13E-07	4.73E-04	9.12E-05	5.79E-03
17 9.10	1.65E-04	4.77E-03	0.	0.	0.	4.23E-04	8.41E-07	1.30E-04	9.12E-05	5.58E-03
18 9.00	1.92E-04	4.07E-03	0.	0.	0.	4.24E-04	8.69E-07	1.30E-04	9.11E-05	4.91E-03
19 8.90	2.20E-04	3.55E-03	0.	0.	0.	4.26E-04	8.99E-07	1.30E-04	9.10E-05	4.42E-03
20 8.80	2.27E-04	3.40E-03	0.	0.	0.	4.27E-04	9.30E-07	1.29E-04	9.10E-05	4.27E-03
21 8.70	2.18E-04	2.72E-03	0.	0.	0.	4.29E-04	9.62E-07	1.29E-04	9.09E-05	3.59E-03
22 8.60	2.10E-04	2.75E-03	0.	0.	0.	4.30E-04	9.97E-07	1.29E-04	9.08E-05	3.62E-03
23 8.50	2.05E-04	2.73E-03	0.	0.	0.	4.32E-04	1.03E-06	1.29E-04	9.07E-05	3.09E-03
24 8.40	2.03E-04	2.16E-03	0.	0.	0.	4.34E-04	1.07E-06	1.28E-04	9.07E-05	3.01E-03
25 8.30	2.01E-04	1.69E-03	0.	0.	0.	4.37E-04	1.11E-06	1.28E-04	9.09E-05	2.55E-03
26 8.20	1.97E-04	1.67E-03	0.	0.	0.	4.39E-04	1.15E-06	1.28E-04	9.17E-05	2.53E-03
27 8.10	1.91E-04	1.34E-03	0.	0.	0.	4.41E-04	1.19E-06	1.28E-04	9.24E-05	2.19E-03
28 8.00	1.86E-04	1.31E-03	0.	0.	0.	4.43E-04	1.24E-06	1.27E-04	9.32E-05	2.16E-03
29 7.90	1.80E-04	1.05E-03	0.	0.	0.	4.46E-04	1.29E-06	1.27E-04	9.40E-05	1.90E-03
30 7.80	1.75E-04	1.05E-03	0.	0.	0.	4.48E-04	1.34E-06	1.27E-04	9.47E-05	1.90E-03
31 7.70	1.68E-04	8.63E-04	0.	0.	0.	4.50E-04	1.39E-06	1.27E-04	9.55E-05	1.71E-03
32 7.60	1.60E-04	7.82E-04	0.	0.	0.	4.52E-04	1.45E-06	1.27E-04	9.63E-05	1.62E-03
33 7.50	1.52E-04	6.81E-04	0.	0.	0.	4.55E-04	1.51E-06	1.27E-04	9.71E-05	1.51E-03
34 7.40	1.45E-04	5.83E-04	0.	0.	0.	4.57E-04	1.57E-06	1.27E-04	9.78E-05	1.41E-03
35 7.30	1.38E-04	5.23E-04	0.	0.	0.	4.60E-04	1.63E-06	1.27E-04	9.86E-05	1.35E-03
36 7.20	1.30E-04	4.66E-04	0.	0.	0.	4.62E-04	1.70E-06	1.27E-04	9.94E-05	1.28E-03
37 7.10	1.22E-04	4.08E-04	0.	0.	0.	4.66E-04	1.78E-06	1.27E-04	1.00E-04	1.27E-03
38 7.00	1.05E-07	3.53E-04	0.	0.	0.	4.70E-04	1.85E-06	1.27E-04	1.01E-04	1.17E-03
39 6.90	1.95E-07	3.07E-04	0.	0.	0.	4.74E-04	1.93E-06	1.27E-04	1.02E-04	1.13E-03
40 6.80	1.65E-07	2.78E-04	0.	0.	0.	4.77E-04	2.02E-06	1.27E-04	1.02E-04	1.24E-03
41 6.70	1.15E-07	2.30E-04	0.	0.	0.	4.81E-04	2.11E-06	1.26E-04	1.03E-04	1.25E-03
42 6.60	6.79E-08	1.94E-04	0.	0.	0.	4.85E-04	2.21E-06	1.27E-04	1.04E-04	1.10E-03
43 6.50	3.75E-08	1.43E-04	0.	0.	0.	4.89E-04	2.32E-06	1.27E-04	1.05E-04	1.20E-03
44 6.40	2.04E-08	9.93E-05	0.	0.	0.	4.93E-04	2.43E-06	1.28E-04	1.06E-04	1.21E-03
45 6.30	1.12E-08	4.97E-05	0.	0.	0.	4.96E-04	2.54E-06	1.28E-04	1.07E-04	9.92E-04
46 6.20	4.81E-09	2.48E-05	0.	0.	0.	5.00E-04	2.67E-06	1.29E-04	1.09E-04	1.08E-03
47 6.10	2.05E-09	1.04E-05	0.	0.	0.	5.04E-04	2.80E-06	1.30E-04	1.11E-04	1.26E-03
48 6.00	8.27E-10	2.53E-06	0.	0.	0.	5.08E-04	2.94E-06	1.31E-04	1.13E-04	9.60E-04
49 5.90	1.95E-10	1.89E-07	0.	0.	0.	5.08E-04	3.10E-06	1.32E-04	1.14E-04	9.83E-04
50 5.80	2.47E-11	4.43E-09	0.	0.	0.	5.00E-04	3.26E-06	1.34E-04	1.16E-04	9.83E-04
51 5.70	1.81E-12	0.	0.	0.	0.	4.70E-04	3.44E-06	1.35E-04	1.18E-04	9.72E-04

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		10000.		DENSITY (GM/CC)		1.293E-04 (1.0E-01 NORMAL)		FREE-FREE		N		U		TOTAL AIR	
PHOTON O2 S-R	ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIR-NOT	NO 2	PHOTO-DET (IONS)	P.E.	N	P.E.	U	P.E.	TOTAL AIR
52	5.60 8.02E-14	0.	0.	0.	4.29E-05	2.95E-04	0.	0.	4.37E-04	3.62E-06	1.36E-04	1.20E-04	1.20E-04	1.03E-03	
53	5.50 0.	0.	0.	0.	5.26E-05	2.83E-04	0.	0.	4.39E-04	3.83E-06	1.38E-04	1.22E-04	1.22E-04	1.04E-03	
54	5.40 0.	0.	0.	0.	4.48E-05	1.91E-04	0.	0.	4.41E-04	4.05E-06	1.41E-04	1.24E-04	1.24E-04	9.46E-04	
55	5.30 0.	0.	0.	0.	4.61E-05	2.78E-04	0.	0.	4.44E-04	4.28E-06	1.43E-04	1.26E-04	1.26E-04	1.04E-03	
56	5.20 0.	0.	0.	0.	4.79E-05	1.65E-04	0.	0.	4.47E-04	4.53E-06	1.45E-04	1.29E-04	1.29E-04	9.39E-04	
57	5.10 0.	0.	0.	0.	4.66E-05	2.24E-04	0.	0.	4.51E-04	4.81E-06	1.49E-04	1.32E-04	1.32E-04	1.01E-03	
58	5.00 9.6E-07	0.	0.	0.	4.10E-05	1.95E-04	0.	0.	4.55E-04	5.10E-06	1.53E-04	1.35E-04	1.35E-04	9.85E-04	
59	4.90 2.1E-06	0.	0.	0.	4.41E-05	1.96E-04	0.	0.	4.59E-04	5.42E-06	1.57E-04	1.38E-04	1.38E-04	1.00E-03	
60	4.80 3.81E-06	0.	0.	0.	4.64E-05	1.80E-04	0.	0.	4.62E-04	5.77E-06	1.62E-04	1.41E-04	1.41E-04	1.00E-03	
61	4.70 4.8E-06	0.	0.	0.	4.43E-05	1.54E-04	0.	0.	4.66E-04	6.15E-06	1.66E-04	1.44E-04	1.44E-04	9.85E-04	
62	4.60 6.21E-06	0.	0.	0.	4.42E-05	1.43E-04	0.	0.	4.70E-04	6.56E-06	1.71E-04	1.48E-04	1.48E-04	9.89E-04	
63	4.50 6.2E-06	0.	0.	0.	3.83E-05	1.02E-04	0.	0.	4.74E-04	7.01E-06	1.78E-04	1.51E-04	1.51E-04	9.69E-04	
64	4.40 6.2E-06	0.	0.	0.	3.73E-05	7.49E-05	0.	0.	4.77E-04	7.50E-06	1.84E-04	1.55E-04	1.55E-04	9.88E-04	
65	4.30 5.61E-06	0.	0.	0.	3.38E-05	4.27E-05	0.	0.	4.81E-04	8.04E-06	1.91E-04	1.59E-04	1.59E-04	1.03E-03	
66	4.20 5.04E-06	0.	0.	0.	3.50E-05	3.36E-05	0.	0.	4.85E-04	8.63E-06	1.98E-04	1.62E-04	1.62E-04	1.38E-03	
67	4.10 4.54E-06	0.	0.	0.	3.24E-05	8.69E-06	0.	0.	4.87E-04	9.28E-06	2.04E-04	1.65E-04	1.65E-04	1.05E-03	
68	4.00 4.01E-06	0.	0.	0.	3.00E-05	6.65E-06	0.	0.	4.89E-04	1.00E-05	2.11E-04	1.68E-04	1.68E-04	1.05E-03	
69	3.90 3.21E-06	0.	0.	0.	2.80E-05	2.72E-05	0.	0.	4.87E-04	1.08E-05	1.76E-04	1.68E-04	1.68E-04	1.05E-03	
70	3.80 3.44E-06	0.	0.	0.	3.99E-05	2.59E-04	0.	0.	4.85E-04	1.17E-05	1.80E-04	1.68E-04	1.68E-04	1.40E-03	
71	3.70 2.83E-06	0.	0.	0.	5.12E-04	6.23E-05	0.	0.	4.77E-04	1.27E-05	1.39E-04	1.39E-04	1.39E-04	1.26E-03	
72	3.60 2.45E-06	0.	0.	0.	2.71E-04	3.97E-04	0.	0.	4.77E-04	1.37E-05	1.50E-04	1.37E-04	1.37E-04	1.34E-03	
73	3.50 2.1E-06	0.	0.	0.	4.16E-04	1.19E-03	0.	0.	4.09E-04	1.50E-05	1.47E-04	1.47E-04	1.47E-04	2.24E-03	
74	3.40 1.8E-06	0.	0.	0.	2.07E-04	9.14E-05	0.	0.	2.36E-04	1.63E-05	1.66E-04	1.66E-04	1.66E-04	2.86E-04	
75	3.30 1.45E-06	0.	0.	0.	2.27E-04	5.04E-04	0.	0.	2.36E-04	1.79E-05	1.85E-04	1.85E-04	1.85E-04	1.24E-03	
76	3.20 1.14E-06	0.	0.	0.	1.29E-04	1.26E-03	0.	0.	2.37E-04	1.96E-05	2.04E-04	2.04E-04	2.04E-04	1.92E-03	
77	3.10 1.08E-06	0.	0.	0.	9.91E-05	1.43E-04	0.	0.	2.37E-04	2.16E-05	2.23E-04	2.23E-04	2.23E-04	8.00E-04	
78	3.00 9.15E-07	0.	0.	0.	5.59E-05	5.02E-04	0.	0.	2.38E-04	2.38E-05	2.43E-04	2.43E-04	2.43E-04	1.14E-03	
79	2.90 7.21E-07	0.	0.	0.	3.33E-05	3.28E-04	0.	0.	2.38E-04	2.64E-05	2.63E-04	2.63E-04	2.63E-04	9.70E-04	
80	2.80 7.19E-07	0.	0.	0.	1.56E-05	1.24E-04	0.	0.	2.39E-04	2.93E-05	2.85E-04	2.85E-04	2.85E-04	7.76E-04	
81	2.70 4.22E-07	0.	0.	0.	7.17E-06	2.45E-04	0.	0.	2.39E-04	3.27E-05	3.08E-04	3.08E-04	3.08E-04	9.18E-04	
82	2.60 1.77E-07	0.	0.	0.	3.65E-06	2.28E-05	0.	0.	2.39E-04	3.67E-05	3.32E-04	3.32E-04	3.32E-04	7.26E-04	
83	2.50 1.18E-08	0.	0.	0.	4.58E-07	1.78E-05	0.	0.	2.39E-04	4.13E-05	3.74E-04	3.74E-04	3.74E-04	7.07E-04	
84	2.40 0.	0.	0.	0.	2.66E-05	0.	0.	0.	2.39E-04	4.68E-05	4.30E-04	4.30E-04	4.30E-04	8.05E-04	
85	2.30 0.	0.	0.	0.	1.15E-04	0.	0.	0.	2.37E-04	5.32E-05	2.83E-04	2.83E-04	2.83E-04	7.40E-04	
86	2.20 0.	0.	0.	0.	2.50E-04	0.	0.	0.	2.36E-04	6.09E-05	3.35E-04	3.35E-04	3.35E-04	9.44E-04	
87	2.10 0.	0.	0.	0.	3.43E-04	0.	0.	0.	2.35E-04	7.01E-05	3.90E-04	3.90E-04	3.90E-04	1.11E-03	
88	2.00 0.	0.	0.	0.	5.74E-04	0.	0.	0.	2.27E-04	8.12E-05	4.45E-04	4.45E-04	4.45E-04	1.41E-03	
89	1.90 0.	0.	0.	0.	1.07E-03	0.	0.	0.	2.19E-04	9.49E-05	5.03E-04	5.03E-04	5.03E-04	1.98E-03	
90	1.80 0.	0.	0.	0.	8.68E-04	0.	0.	0.	2.09E-04	1.12E-04	5.92E-04	5.92E-04	5.92E-04	1.89E-03	
91	1.70 0.	0.	0.	0.	1.05E-03	0.	0.	0.	1.97E-04	1.33E-04	7.02E-04	7.02E-04	7.02E-04	2.22E-03	
92	1.60 0.	0.	0.	0.	7.36E-04	0.	0.	0.	1.67E-04	1.60E-04	8.12E-04	8.12E-04	8.12E-04	2.03E-03	
93	1.50 0.	0.	0.	0.	9.02E-04	0.	0.	0.	7.58E-05	1.94E-04	1.01E-03	1.01E-03	1.01E-03	2.37E-03	
94	1.40 0.	0.	0.	0.	9.46E-04	0.	0.	0.	0.	2.40E-04	1.23E-03	1.23E-03	1.23E-03	2.63E-03	
95	1.30 0.	0.	0.	0.	7.02E-04	0.	0.	0.	0.	3.00E-04	1.50E-03	1.50E-03	1.50E-03	2.79E-03	
96	1.20 0.	0.	0.	0.	7.05E-04	0.	0.	0.	0.	3.83E-04	1.41E-03	1.41E-03	1.41E-03	2.76E-03	
97	1.10 0.	0.	0.	0.	5.90E-04	0.	0.	0.	0.	4.99E-04	1.74E-03	1.74E-03	1.74E-03	3.16E-03	
98	1.00 0.	0.	0.	0.	5.47E-04	0.	0.	0.	0.	6.67E-04	2.10E-03	2.10E-03	2.10E-03	3.67E-03	
99	0.90 0.	0.	0.	0.	4.43E-04	0.	0.	0.	0.	9.18E-04	2.37E-03	2.37E-03	2.37E-03	4.15E-03	
100	0.80 0.	0.	0.	0.	2.07E-04	0.	0.	0.	0.	1.32E-03	2.72E-03	2.72E-03	2.72E-03	4.73E-03	
101	0.70 0.	0.	0.	0.	5.38E-05	0.	0.	0.	0.	1.99E-03	3.01E-03	3.01E-03	3.01E-03	5.61E-04	
102	0.60 0.	0.	0.	0.	3.77E-06	0.	0.	0.	0.	3.18E-03	3.35E-03	3.35E-03	3.35E-03	6.04E-04	
103														7.15E-03	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				1000C.	DENSITY (GM/CC)		1.293E-05 (110.0E-03 NORMAL)				
PHOTON ENERGY E.V.	02 S-R PANDS	02 S-R CONT.	N2 B-H NO. 1	NO RETA	NO GAMMA	NO 2	0- PHOTO-DET (IUNS)	FREE-FREE (IUNS)	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.		0.	2.59E-04	0.	0.	0.	1.27E-05	5.05E-08	4.65E-05	9.15E-06	3.27E-04
2 10.60 0.		0.	2.23E-04	0.	0.	0.	1.27E-05	5.19E-08	4.67E-05	9.14E-06	2.91E-04
3 10.50 0.		0.	2.17E-04	0.	0.	0.	1.27E-05	5.34E-08	4.70E-05	9.13E-06	2.86E-04
4 10.40 0.		0.	1.96E-04	0.	0.	0.	1.27E-05	5.50E-08	4.72E-05	9.13E-06	2.65E-04
5 10.30 0.		0.	1.61E-04	0.	0.	0.	1.27E-05	5.66E-08	4.73E-05	9.12E-06	2.30E-04
6 10.20 0.		0.	1.60E-04	0.	0.	0.	1.28E-05	5.83E-08	4.74E-05	9.11E-06	2.30E-04
7 10.10 0.		0.	1.45E-04	0.	0.	0.	1.28E-05	6.00E-08	4.75E-05	9.10E-06	2.15E-04
8 10.00 0.		0.	1.18E-04	0.	0.	0.	1.28E-05	6.19E-08	4.76E-05	9.10E-06	1.88E-04
9 9.90 0.		0.	1.20E-04	0.	0.	0.	1.28E-05	6.38E-08	4.78E-05	9.09E-06	1.89E-04
10 9.80 0.		0.	1.06E-04	0.	0.	0.	1.28E-05	6.58E-08	4.79E-05	9.08E-06	1.76E-04
11 9.70 0.		0.	8.56E-05	0.	0.	0.	1.29E-05	6.78E-08	4.80E-05	9.07E-06	1.56E-04
12 9.60 0.		0.	9.18E-05	0.	0.	0.	1.29E-05	7.00E-08	4.81E-05	9.06E-06	1.62E-04
13 9.50 0.		6.68E-07	7.27E-05	0.	0.	0.	1.29E-05	7.22E-08	4.83E-05	9.05E-06	1.44E-04
14 9.40 0.		9.01E-07	6.51E-05	0.	0.	0.	1.30E-05	7.45E-08	4.84E-05	9.05E-06	1.36E-04
15 9.30 0.		1.13E-06	6.56E-05	0.	0.	0.	1.30E-05	7.70E-08	4.85E-05	9.04E-06	1.37E-04
16 9.20 0.		1.37E-06	4.93E-05	0.	0.	0.	1.30E-05	7.95E-08	1.34E-05	9.03E-06	8.63E-05
17 9.10 0.		1.63E-06	5.05E-05	0.	0.	0.	1.31E-05	8.22E-08	1.34E-05	9.02E-06	8.77E-05
18 9.00 0.		1.89E-06	4.31E-05	0.	0.	0.	1.31E-05	8.50E-08	1.34E-05	9.02E-06	8.06E-05
19 8.90 0.		2.16E-06	3.75E-05	0.	0.	0.	1.32E-05	8.79E-08	1.33E-05	9.01E-06	7.33E-05
20 8.80 0.		2.23E-06	3.59E-05	0.	0.	0.	1.32E-05	9.09E-08	1.33E-05	9.00E-06	7.38E-05
21 8.70 0.		2.15E-06	2.88E-05	0.	0.	0.	1.33E-05	9.41E-08	1.33E-05	9.00E-06	6.66E-05
22 8.60 0.		2.07E-06	2.91E-05	0.	0.	0.	1.33E-05	9.75E-08	1.32E-05	8.99E-06	6.69E-05
23 8.50 0.		2.02E-06	2.36E-05	0.	0.	0.	1.34E-05	1.01E-07	1.32E-05	8.98E-06	6.13E-05
24 8.40 0.		2.00E-06	2.28E-05	0.	0.	0.	1.34E-05	1.05E-07	1.32E-05	8.98E-06	6.05E-05
25 8.30 0.		1.98E-06	1.79E-05	0.	0.	0.	1.35E-05	1.08E-07	1.32E-05	9.00E-06	5.57E-05
26 8.20 0.		1.94E-06	1.76E-05	0.	0.	0.	1.36E-05	1.12E-07	1.32E-05	9.07E-06	5.55E-05
27 8.10 0.		1.88E-06	1.42E-05	0.	0.	0.	1.37E-05	1.17E-07	1.31E-05	9.15E-06	5.21E-05
28 8.00 0.		1.83E-06	1.38E-05	0.	0.	0.	1.37E-05	1.21E-07	1.31E-05	9.23E-06	5.18E-05
29 7.90 0.		1.77E-06	1.11E-05	0.	0.	0.	1.38E-05	1.26E-07	1.31E-05	9.30E-06	4.92E-05
30 7.80 0.		1.72E-06	1.11E-05	0.	0.	0.	1.39E-05	1.31E-07	1.31E-05	9.38E-06	4.93E-05
31 7.70 0.		1.66E-06	9.13E-06	0.	0.	0.	1.39E-05	1.36E-07	1.31E-05	9.45E-06	4.74E-05
32 7.60 0.		1.58E-06	8.27E-06	0.	4.66E-10	0.	1.40E-05	1.41E-07	1.31E-05	9.53E-06	4.66E-05
33 7.50 0.		1.50E-06	7.20E-06	0.	2.41E-09	0.	1.41E-05	1.47E-07	1.31E-05	9.61E-06	4.56E-05
34 7.40 0.		1.43E-06	6.16E-06	0.	1.23E-08	0.	1.42E-05	1.53E-07	1.31E-05	9.68E-06	4.47E-05
35 7.30 0.		1.36E-06	5.53E-06	0.	6.26E-08	0.	1.42E-05	1.60E-07	1.30E-05	9.76E-06	4.42E-05
36 7.20 0.		1.28E-06	4.72E-06	0.	1.68E-07	0.	1.43E-05	1.66E-07	1.30E-05	9.84E-06	4.35E-05
37 7.10 0.		1.21E-06	4.31E-06	0.	4.41E-07	0.	1.44E-05	1.74E-07	1.30E-05	9.91E-06	4.35E-05
38 7.00 1.0E-09		0.	3.74E-06	0.	1.21E-06	0.	1.45E-05	1.81E-07	1.30E-05	9.99E-06	4.27E-05
39 6.90 1.94E-09		0.	3.25E-06	0.	1.21E-06	0.	1.47E-05	1.89E-07	1.30E-05	1.01E-05	4.24E-05
40 6.80 1.62E-09		0.	2.94E-06	0.	2.57E-06	0.	1.48E-05	1.98E-07	1.30E-05	1.01E-05	4.37E-05
41 6.70 1.13E-09		0.	2.43E-06	0.	3.16E-06	0.	1.49E-05	2.07E-07	1.30E-05	1.02E-05	4.39E-05
42 6.60 6.66E-10		0.	2.05E-06	0.	1.88E-06	0.	1.50E-05	2.16E-07	1.30E-05	1.03E-05	4.25E-05
43 6.50 3.69E-10		0.	1.52E-06	0.	3.41E-06	0.	1.51E-05	2.26E-07	1.31E-05	1.04E-05	4.38E-05
44 6.40 2.07E-10		0.	9.44E-07	2.03E-08	3.97E-06	0.	1.53E-05	2.37E-07	1.31E-05	1.05E-05	4.41E-05
45 6.30 1.1E-10		0.	5.26E-07	8.89E-08	2.02E-06	0.	1.54E-05	2.49E-07	1.32E-05	1.06E-05	4.21E-05
46 6.20 4.72E-11		0.	2.63E-07	1.18E-07	3.11E-06	0.	1.55E-05	2.61E-07	1.33E-05	1.08E-05	4.33E-05
47 6.10 2.04E-11		0.	1.12E-07	3.24E-07	4.76E-06	0.	1.56E-05	2.74E-07	1.33E-05	1.10E-05	4.54E-05
48 6.00 8.12E-12		0.	2.68E-08	2.77E-07	1.79E-06	0.	1.57E-05	2.88E-07	1.35E-05	1.11E-05	4.27E-05
49 5.90 1.93E-12		0.	1.90E-09	3.92E-07	1.90E-06	0.	1.57E-05	3.03E-07	1.36E-05	1.13E-05	4.33E-05
50 5.80 2.43E-13		0.	4.69E-11	5.28E-07	1.81E-06	0.	1.55E-05	3.19E-07	1.37E-05	1.15E-05	4.34E-05
51 5.70 1.78E-14		0.	0.	5.75E-07	1.93E-06	0.	1.45E-05	3.36E-07	1.39E-05	1.17E-05	4.29E-05

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R ENERGY BANDS		N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N2 BETA	N2 GAMMA	N2 VIB-ROT	N2 NO	PHOTO-DET (IUNS)	FREE-FREE (IUNS)	N P.E.	O P.E.	TOTAL AIR
		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-05		110.0E-03		NORMAL			
52	3.60	7.87E-16	0.	0.	4.37E-07	3.01E-06	0.	0.	1.35E-05	3.54E-07	1.40E-05	1.19E-05	4.32E-05
53	5.50	0.	0.	0.	5.36E-07	2.88E-06	0.	0.	1.36E-05	3.74E-07	1.42E-05	1.21E-05	4.37E-05
54	5.40	0.	0.	0.	4.57E-07	1.95E-06	0.	0.	1.37E-05	3.96E-07	1.45E-05	1.22E-05	4.32E-05
55	5.30	0.	0.	0.	4.70E-07	2.83E-06	0.	0.	1.38E-05	4.19E-07	1.47E-05	1.25E-05	4.46E-05
56	5.20	0.	0.	0.	4.88E-07	1.68E-06	0.	0.	1.38E-05	4.43E-07	1.49E-05	1.28E-05	4.42E-05
57	5.10	0.	0.	0.	4.75E-07	2.28E-06	0.	0.	1.40E-05	4.70E-07	1.53E-05	1.31E-05	4.56E-05
58	5.00	9.47E-09	0.	0.	4.18E-07	1.99E-06	0.	0.	1.41E-05	4.99E-07	1.58E-05	1.33E-05	4.61E-05
59	4.90	2.14E-08	0.	0.	4.50E-07	2.00E-06	0.	0.	1.42E-05	5.30E-07	1.62E-05	1.36E-05	4.70E-05
60	4.80	3.74E-08	0.	0.	4.73E-07	1.84E-06	0.	0.	1.43E-05	5.64E-07	1.66E-05	1.39E-05	4.78E-05
61	4.70	4.71E-08	0.	0.	4.51E-07	1.56E-06	0.	0.	1.44E-05	6.01E-07	1.71E-05	1.43E-05	4.85E-05
62	4.60	6.09E-08	0.	0.	4.50E-07	1.46E-06	0.	0.	1.45E-05	6.41E-07	1.76E-05	1.46E-05	4.94E-05
63	4.50	6.04E-08	0.	1.33E-07	3.90E-07	1.04E-06	0.	0.	1.47E-05	6.85E-07	1.83E-05	1.50E-05	5.02E-05
64	4.40	6.14E-08	0.	4.77E-07	3.80E-07	7.62E-07	0.	0.	1.48E-05	7.34E-07	1.89E-05	1.53E-05	5.15E-05
65	4.30	5.51E-08	0.	1.18E-06	3.45E-07	4.35E-07	0.	0.	1.49E-05	7.86E-07	1.96E-05	1.57E-05	5.30E-05
66	4.20	4.95E-08	0.	4.76E-06	3.56E-07	3.43E-07	0.	0.	1.50E-05	8.44E-07	2.03E-05	1.60E-05	5.77E-05
67	4.10	4.45E-08	0.	1.50E-06	3.30E-07	8.85E-08	0.	0.	1.51E-05	9.08E-07	2.10E-05	2.70E-06	4.17E-05
68	4.00	3.93E-08	0.	6.68E-06	3.06E-07	6.77E-08	0.	0.	1.51E-05	9.78E-07	2.17E-05	2.78E-06	4.35E-05
69	3.90	3.15E-08	0.	2.97E-06	2.97E-07	2.90E-08	0.	0.	1.51E-05	1.06E-06	2.17E-05	2.86E-06	4.15E-05
70	3.80	3.37E-08	0.	4.22E-06	2.77E-07	0.	0.	0.	1.50E-05	1.14E-06	2.38E-05	2.95E-06	4.63E-05
71	3.70	2.78E-08	0.	5.42E-06	2.15E-07	0.	0.	0.	1.48E-05	1.24E-06	2.43E-05	3.31E-06	4.14E-05
72	3.60	2.41E-08	0.	2.86E-06	1.34E-05	2.34E-07	0.	0.	1.38E-05	1.34E-06	1.34E-05	3.73E-06	4.89E-05
73	3.50	2.14E-08	0.	4.40E-06	4.03E-05	1.68E-07	0.	0.	1.27E-05	1.46E-06	1.51E-05	4.18E-06	7.83E-05
74	3.40	1.84E-08	0.	2.21E-06	3.09E-06	1.86E-07	0.	0.	7.31E-06	1.60E-06	1.71E-05	4.66E-06	3.61E-05
75	3.30	1.43E-08	0.	2.40E-06	1.70E-05	1.37E-07	0.	0.	7.32E-06	1.75E-06	1.90E-05	5.16E-06	5.28E-05
76	3.20	1.17E-08	0.	1.36E-06	4.26E-05	1.40E-07	0.	0.	7.34E-06	1.92E-06	2.10E-05	5.67E-06	8.01E-05
77	3.10	1.06E-08	0.	1.05E-06	4.83E-06	1.24E-07	0.	0.	7.35E-06	2.11E-06	2.30E-05	6.18E-06	4.46E-05
78	3.00	8.98E-09	0.	5.91E-07	1.70E-05	1.10E-07	0.	0.	7.37E-06	2.33E-06	2.50E-05	6.69E-06	5.91E-05
79	2.90	7.07E-09	0.	3.52E-07	1.11E-05	7.61E-08	0.	0.	7.38E-06	2.58E-06	2.70E-05	7.21E-06	5.57E-05
80	2.80	7.05E-09	0.	1.65E-07	4.20E-06	4.65E-08	0.	0.	7.39E-06	2.87E-06	2.93E-05	7.76E-06	5.17E-05
81	2.70	4.14E-09	0.	7.58E-08	8.28E-06	2.24E-08	0.	0.	7.39E-06	3.20E-06	3.16E-05	8.36E-06	5.90E-05
82	2.60	1.74E-09	0.	3.86E-08	7.73E-07	8.84E-09	0.	0.	7.39E-06	3.59E-06	3.42E-05	8.57E-06	5.46E-05
83	2.50	1.16E-10	0.	4.85E-09	6.01E-07	1.96E-09	0.	0.	7.39E-06	4.04E-06	3.84E-05	9.46E-06	5.39E-05
84	2.40	0.	2.81E-07	0.	6.61E-07	1.98E-10	0.	0.	7.39E-06	4.58E-06	4.40E-05	1.06E-06	4.80E-05
85	2.30	0.	1.22E-06	0.	0.	0.	0.	0.	7.34E-06	5.20E-06	2.91E-05	5.10E-06	4.80E-05
86	2.20	0.	2.64E-06	0.	0.	0.	0.	0.	7.31E-06	5.95E-06	3.44E-05	6.15E-06	5.65E-05
87	2.10	0.	3.62E-06	0.	0.	0.	0.	0.	7.28E-06	6.85E-06	4.01E-05	7.21E-06	6.50E-05
88	2.00	0.	6.07E-06	0.	0.	0.	0.	0.	7.04E-06	7.94E-06	4.58E-05	8.26E-06	7.51E-05
89	1.90	0.	9.18E-06	0.	0.	0.	0.	0.	6.77E-06	9.28E-06	5.17E-05	9.36E-06	8.84E-05
90	1.80	0.	1.13E-05	0.	0.	0.	0.	0.	6.48E-06	1.09E-05	6.09E-05	1.11E-05	9.86E-05
91	1.70	0.	1.11E-05	0.	0.	0.	0.	0.	6.10E-06	1.30E-05	7.22E-05	1.34E-05	1.16E-04
92	1.60	0.	7.78E-06	0.	0.	0.	0.	0.	5.16E-06	1.56E-05	8.35E-05	1.56E-05	1.28E-04
93	1.50	0.	9.54E-06	0.	0.	0.	0.	0.	2.35E-06	1.90E-05	1.04E-04	1.77E-05	1.53E-04
94	1.40	0.	1.00E-05	0.	0.	0.	0.	0.	0.	2.34E-05	1.17E-04	2.16E-05	1.72E-04
95	1.30	0.	7.42E-06	0.	0.	0.	0.	0.	0.	2.93E-05	1.08E-04	1.94E-05	1.65E-04
96	1.20	0.	7.46E-06	0.	0.	0.	0.	0.	0.	3.74E-05	1.43E-04	2.59E-05	2.13E-04
97	1.10	0.	6.24E-06	0.	0.	0.	2.85E-11	0.	0.	4.88E-05	1.79E-04	2.93E-05	2.64E-04
98	1.00	0.	5.78E-06	0.	0.	0.	2.63E-10	0.	0.	6.52E-05	2.07E-04	3.56E-05	3.14E-04
99	0.90	0.	4.68E-06	0.	0.	0.	3.22E-10	0.	0.	8.98E-05	2.43E-04	4.19E-05	3.80E-04
100	0.80	0.	2.18E-06	0.	0.	0.	5.62E-09	0.	0.	1.29E-04	2.79E-04	4.81E-05	4.59E-04
101	0.70	0.	5.69E-07	0.	0.	0.	3.88E-09	0.	0.	1.95E-04	3.09E-04	5.35E-05	5.59E-04
102	0.60	0.	3.98E-08	0.	0.	0.	1.54E-08	0.	0.	3.11E-04	2.70E-04	4.36E-05	6.25E-04



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON G2 S-R ENERGY BANDS E.V.		O2 S-R CONT.		N2 B-H NO. 1		TEMPERATURE (DEGREES K) 10000.		NO BETA		NO GAMMA		DENSITY (GM/CC) 1.293F-06 (10.0E-04 NORMAL)		D- PHOTO-DET (IONS)		FREE-FREE N		O P.E.		TOTAL AIR	
1	10.70 0.	0.	0.	2.30E-06	0.	0.	0.	0.	0.	0.	0.	3.72E-07	4.74E-09	4.38E-06	8.77E-07	7.93E-06	7.93E-06	7.93E-06	7.93E-06	7.93E-06	7.93E-06
2	10.60 0.	0.	0.	1.98E-06	0.	0.	0.	0.	0.	0.	0.	3.73E-07	4.88E-09	4.41E-06	8.76E-07	7.64E-06	7.64E-06	7.64E-06	7.64E-06	7.64E-06	7.64E-06
3	10.50 0.	0.	0.	1.93E-06	0.	0.	0.	0.	0.	0.	0.	3.73E-07	5.02E-09	4.41E-06	8.76E-07	7.61E-06	7.61E-06	7.61E-06	7.61E-06	7.61E-06	7.61E-06
4	10.40 0.	0.	0.	1.74E-06	0.	0.	0.	0.	0.	0.	0.	3.74E-07	5.17E-09	4.44E-06	8.75E-07	7.44E-06	7.44E-06	7.44E-06	7.44E-06	7.44E-06	7.44E-06
5	10.30 0.	0.	0.	1.43E-06	0.	0.	0.	0.	0.	0.	0.	3.74E-07	5.32E-09	4.46E-06	8.74E-07	7.14E-06	7.14E-06	7.14E-06	7.14E-06	7.14E-06	7.14E-06
6	10.20 0.	0.	0.	1.42E-06	0.	0.	0.	0.	0.	0.	0.	3.75E-07	5.48E-09	4.47E-06	8.73E-07	7.14E-06	7.14E-06	7.14E-06	7.14E-06	7.14E-06	7.14E-06
7	10.10 0.	0.	0.	1.29E-06	0.	0.	0.	0.	0.	0.	0.	3.76E-07	5.81E-09	4.49E-06	8.72E-07	6.79E-06	6.79E-06	6.79E-06	6.79E-06	6.79E-06	6.79E-06
8	10.00 0.	0.	0.	1.05E-06	0.	0.	0.	0.	0.	0.	0.	3.76E-07	5.99E-09	4.50E-06	8.71E-07	6.82E-06	6.82E-06	6.82E-06	6.82E-06	6.82E-06	6.82E-06
9	9.90 0.	0.	0.	1.06E-06	0.	0.	0.	0.	0.	0.	0.	3.77E-07	6.18E-09	4.51E-06	8.70E-07	6.71E-06	6.71E-06	6.71E-06	6.71E-06	6.71E-06	6.71E-06
10	9.80 0.	0.	0.	9.44E-07	0.	0.	0.	0.	0.	0.	0.	3.78E-07	6.37E-09	4.52E-06	8.70E-07	6.54E-06	6.54E-06	6.54E-06	6.54E-06	6.54E-06	6.54E-06
11	9.70 0.	0.	0.	7.60E-07	0.	0.	0.	0.	0.	0.	0.	3.78E-07	6.57E-09	4.54E-06	8.69E-07	6.60E-06	6.60E-06	6.60E-06	6.60E-06	6.60E-06	6.60E-06
12	9.60 0.	0.	0.	8.15E-07	0.	0.	0.	0.	0.	0.	0.	3.79E-07	6.78E-09	4.55E-06	8.68E-07	6.45E-06	6.45E-06	6.45E-06	6.45E-06	6.45E-06	6.45E-06
13	9.50 0.	0.	0.	6.10E-07	0.	0.	0.	0.	0.	0.	0.	3.81E-07	7.00E-09	4.56E-06	8.67E-07	6.40E-06	6.40E-06	6.40E-06	6.40E-06	6.40E-06	6.40E-06
14	9.40 0.	0.	0.	5.78E-07	0.	0.	0.	0.	0.	0.	0.	3.82E-07	7.23E-09	1.27E-06	8.66E-07	3.12E-06	3.12E-06	3.12E-06	3.12E-06	3.12E-06	3.12E-06
15	9.30 0.	0.	0.	5.82E-07	0.	0.	0.	0.	0.	0.	0.	3.83E-07	7.47E-09	1.26E-06	8.66E-07	2.97E-06	2.97E-06	2.97E-06	2.97E-06	2.97E-06	2.97E-06
16	9.20 0.	0.	0.	4.38E-07	0.	0.	0.	0.	0.	0.	0.	3.85E-07	7.72E-09	1.26E-06	8.65E-07	2.98E-06	2.98E-06	2.98E-06	2.98E-06	2.98E-06	2.98E-06
17	9.10 0.	0.	0.	4.48E-07	0.	0.	0.	0.	0.	0.	0.	3.86E-07	7.98E-09	1.26E-06	8.64E-07	2.92E-06	2.92E-06	2.92E-06	2.92E-06	2.92E-06	2.92E-06
18	9.00 0.	0.	0.	3.82E-07	0.	0.	0.	0.	0.	0.	0.	3.87E-07	8.26E-09	1.26E-06	8.64E-07	2.87E-06	2.87E-06	2.87E-06	2.87E-06	2.87E-06	2.87E-06
19	8.90 0.	0.	0.	3.33E-07	0.	0.	0.	0.	0.	0.	0.	3.89E-07	8.54E-09	1.25E-06	8.63E-07	2.85E-06	2.85E-06	2.85E-06	2.85E-06	2.85E-06	2.85E-06
20	8.80 0.	0.	0.	3.19E-07	0.	0.	0.	0.	0.	0.	0.	3.90E-07	8.84E-09	1.25E-06	8.62E-07	2.79E-06	2.79E-06	2.79E-06	2.79E-06	2.79E-06	2.79E-06
21	8.70 0.	0.	0.	2.55E-07	0.	0.	0.	0.	0.	0.	0.	3.92E-07	9.16E-09	1.25E-06	8.62E-07	2.79E-06	2.79E-06	2.79E-06	2.79E-06	2.79E-06	2.79E-06
22	8.60 0.	0.	0.	2.59E-07	0.	0.	0.	0.	0.	0.	0.	3.93E-07	9.48E-09	1.25E-06	8.61E-07	2.74E-06	2.74E-06	2.74E-06	2.74E-06	2.74E-06	2.74E-06
23	8.50 0.	0.	0.	2.09E-07	0.	0.	0.	0.	0.	0.	0.	3.93E-07	9.83E-09	1.24E-06	8.60E-07	2.73E-06	2.73E-06	2.73E-06	2.73E-06	2.73E-06	2.73E-06
24	8.40 0.	0.	0.	2.02E-07	0.	0.	0.	0.	0.	0.	0.	3.97E-07	1.02E-08	1.24E-06	8.62E-07	2.69E-06	2.69E-06	2.69E-06	2.69E-06	2.69E-06	2.69E-06
25	8.30 0.	0.	0.	1.59E-07	0.	0.	0.	0.	0.	0.	0.	3.99E-07	1.06E-08	1.24E-06	8.70E-07	2.69E-06	2.69E-06	2.69E-06	2.69E-06	2.69E-06	2.69E-06
26	8.20 0.	0.	0.	1.57E-07	0.	0.	0.	0.	0.	0.	0.	4.01E-07	1.10E-08	1.24E-06	8.77E-07	2.67E-06	2.67E-06	2.67E-06	2.67E-06	2.67E-06	2.67E-06
27	8.10 0.	0.	0.	1.26E-07	0.	0.	0.	0.	0.	0.	0.	4.03E-07	1.14E-08	1.23E-06	8.84E-07	2.67E-06	2.67E-06	2.67E-06	2.67E-06	2.67E-06	2.67E-06
28	8.00 0.	0.	0.	1.23E-07	0.	0.	0.	0.	0.	0.	0.	4.05E-07	1.18E-08	1.23E-06	8.92E-07	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06
29	7.90 0.	0.	0.	9.85E-08	0.	0.	0.	0.	0.	0.	0.	4.07E-07	1.23E-08	1.23E-06	8.99E-07	2.67E-06	2.67E-06	2.67E-06	2.67E-06	2.67E-06	2.67E-06
30	7.80 0.	0.	0.	9.86E-08	0.	0.	0.	0.	0.	0.	0.	4.10E-07	1.28E-08	1.23E-06	9.06E-07	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06
31	7.70 0.	0.	0.	8.10E-08	0.	0.	0.	0.	0.	0.	0.	4.12E-07	1.33E-08	1.23E-06	9.14E-07	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06
32	7.60 0.	0.	0.	7.34E-08	0.	0.	0.	0.	0.	0.	0.	4.14E-07	1.38E-08	1.23E-06	9.21E-07	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06
33	7.50 0.	0.	0.	6.40E-08	0.	0.	0.	0.	0.	0.	0.	4.16E-07	1.44E-08	1.23E-06	9.28E-07	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06
34	7.40 0.	0.	0.	5.47E-08	0.	0.	0.	0.	0.	0.	0.	4.18E-07	1.50E-08	1.23E-06	9.35E-07	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06
35	7.30 0.	0.	0.	4.91E-08	0.	0.	0.	0.	0.	0.	0.	4.21E-07	1.56E-08	1.23E-06	9.43E-07	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06	2.66E-06
36	7.20 0.	0.	0.	4.19E-08	0.	0.	0.	0.	0.	0.	0.	4.24E-07	1.63E-08	1.23E-06	9.50E-07	2.67E-06	2.67E-06	2.67E-06	2.67E-06	2.67E-06	2.67E-06
37	7.10 0.	0.	0.	3.83E-08	0.	0.	0.	0.	0.	0.	0.	4.27E-07	1.70E-08	1.23E-06	9.57E-07	2.68E-06	2.68E-06	2.68E-06	2.68E-06	2.68E-06	2.68E-06
38	7.00 9.44E-12 0.	0.	0.	3.32E-08	0.	0.	0.	0.	0.	0.	0.	4.31E-07	1.78E-08	1.23E-06	9.65E-07	2.70E-06	2.70E-06	2.70E-06	2.70E-06	2.70E-06	2.70E-06
39	6.90 1.78E-11 0.	0.	0.	2.88E-08	0.	0.	0.	0.	0.	0.	0.	4.34E-07	1.86E-08	1.23E-06	9.72E-07	2.71E-06	2.71E-06	2.71E-06	2.71E-06	2.71E-06	2.71E-06
40	6.80 1.48E-11 0.	0.	0.	2.61E-08	0.	0.	0.	0.	0.	0.	0.	4.38E-07	1.94E-08	1.23E-06	9.80E-07	2.71E-06	2.71E-06	2.71E-06	2.71E-06	2.71E-06	2.71E-06
41	6.70 1.04E-11 0.	0.	0.	2.16E-08	0.	0.	0.	0.	0.	0.	0.	4.38E-07	2.03E-08	1.23E-06	9.89E-07	2.71E-06	2.71E-06	2.71E-06	2.71E-06	2.71E-06	2.71E-06
42	6.60 6.11E-12 0.	0.	0.	1.82E-08	0.	0.	0.	0.	0.	0.	0.	4.43E-07	2.13E-08	1.23E-06	9.97E-07	2.74E-06	2.74E-06	2.74E-06	2.74E-06	2.74E-06	2.74E-06
43	6.50 3.33E-12 0.	0.	0.	1.34E-08	0.	0.	0.	0.	0.	0.	0.	4.48E-07	2.23E-08	1.24E-06	1.01E-06	2.76E-06	2.76E-06	2.76E-06	2.76E-06	2.76E-06	2.76E-06
44	6.40 1.83E-12 0.	0.	0.	8.38E-09	0.	0.	0.	0.	0.	0.	0.	4.52E-07	2.34E-08	1.24E-06	1.02E-06	2.76E-06	2.76E-06	2.76E-06	2.76E-06	2.76E-06	2.76E-06
45	6.30 1.01E-12 0.	0.	0.	4.67E-09	0.	0.	0.	0.	0.	0.	0.	4.55E-07	2.45E-08	1.25E-06	1.03E-06	2.79E-06	2.79E-06	2.79E-06	2.79E-06	2.79E-06	2.79E-06
46	6.20 4.33E-13 0.	0.	0.	2.33E-09	0.	0.	0.	0.	0.	0.	0.	4.58E-07	2.57E-08	1.26E-06	1.05E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06
47	6.10 1.87E-13 0.	0.	0.	9.95E-10	0.	0.	0.	0.	0.	0.	0.	4.62E-07	2.71E-08	1.27E-06	1.07E-06	2.85E-06	2.85E-06	2.85E-06	2.85E-06	2.85E-06	2.85E-06
48	6.00 7.45E-14 0.	0.	0.	2.38E-10	0.	0.	0.	0.	0.	0.	0.	4.62E-07	2.85E-08	1.28E-06	1.09E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06
49	5.90 1.77E-14 0.	0.	0.	1.69E-11	0.	0.	0.	0.	0.	0.	0.	4.62E-07	3.00E-08	1.30E-06	1.10E-06	2.90E-06	2.90E-06	2.90E-06	2.90E-06	2.90E-06	2.90E-06
50	5.80 2.23E-15 0.	0.	0.	4.16E-13	0.	0.	0.	0.	0.	0.	0.	4.55E-07	3.16E-08	1.31E-06	1.12E-06	2.91E-06	2.91E-06	2.91E-06	2.91E-06	2.91E-06	2.91E-06
51	5.70 1.63E-16 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.27E-07	3.16E-08	1.31E-06	1.12E-06	2.91E-06	2.91E-06	2.91E-06	2.91E-06	2.91E-06	2.91E-06

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON U2 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		FREE-FREE		TOTAL AIR	
ENERGY BANDS		1ST POS.		2ND POS.		1ST NEG.		2ND POS.	
		N2		N2+		BETA		N	
		NO		NO		GAMMA		NO	
		NO		NO		VIB-ROT		NO	
		NO		NO		PHOTO-DET (IONS)		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
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		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
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		NO		NO		P.E.		P.E.	
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		NO		NO		P.E.		P.E.	
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		NO		NO		P.E.		P.E.	
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		NO		NO		P.E.		P.E.	
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		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
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		NO		NO		P.E.		P.E.	
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		NO		NO		P.E.		P.E.	
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		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	
		NO		NO		P.E.		P.E.	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTO 12 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		NO		FREE-FREE		N		TOTAL AIR	
ENERGY BANDS		V2 H-H		10000.		2		PHOTO-DET (IUNS)		P.E.		P.E.	
E.V.		NO. 1		NO		GAMMA		NO		P.E.		P.E.	
				BETA									
1	10.70 0.	1.53E-04	0.	0.	0.	0.	0.	9.27E-09	3.91E-10	3.58E-07	7.60E-08	4.59E-07	
2	10.60 0.	1.32E-04	0.	0.	0.	0.	0.	9.28E-09	4.02E-10	3.60E-07	7.59E-08	4.59E-07	
3	10.50 0.	1.29E-08	0.	0.	0.	0.	0.	9.29E-09	4.13E-10	3.62E-07	7.59E-08	4.60E-07	
4	10.40 0.	1.16E-08	0.	0.	0.	0.	0.	9.30E-09	4.26E-10	3.63E-07	7.58E-08	4.60E-07	
5	10.30 0.	9.56E-09	0.	0.	0.	0.	0.	9.31E-09	4.38E-10	3.64E-07	7.58E-08	4.59E-07	
6	10.20 0.	9.50E-09	0.	0.	0.	0.	0.	9.33E-09	4.51E-10	3.65E-07	7.57E-08	4.60E-07	
7	10.10 0.	8.62E-09	0.	0.	0.	0.	0.	9.34E-09	4.65E-10	3.66E-07	7.56E-08	4.60E-07	
8	10.00 0.	7.02E-09	0.	0.	0.	0.	0.	9.35E-09	4.79E-10	3.67E-07	7.56E-08	4.59E-07	
9	9.90 0.	7.09E-09	0.	0.	0.	0.	0.	9.37E-09	4.94E-10	3.68E-07	7.55E-08	4.60E-07	
10	9.80 0.	6.31E-09	0.	0.	0.	0.	0.	9.39E-09	5.09E-10	3.69E-07	7.54E-08	4.60E-07	
11	9.70 0.	5.07E-09	0.	0.	0.	0.	0.	9.40E-09	5.25E-10	3.69E-07	7.54E-08	4.60E-07	
12	9.60 0.	5.44E-09	0.	0.	0.	0.	0.	9.42E-09	5.42E-10	3.70E-07	7.53E-08	4.61E-07	
13	9.50 0.	4.61E-11	0.	0.	0.	0.	0.	9.44E-09	5.59E-10	3.71E-07	7.52E-08	4.61E-07	
14	9.40 0.	6.22E-11	0.	0.	0.	0.	0.	9.47E-09	5.77E-10	3.72E-07	7.52E-08	4.62E-07	
15	9.30 0.	7.83E-11	0.	0.	0.	0.	0.	9.51E-09	5.96E-10	1.04E-07	7.51E-08	1.93E-07	
16	9.20 0.	9.44E-11	0.	0.	0.	0.	0.	9.54E-09	6.16E-10	1.03E-07	7.50E-08	1.91E-07	
17	9.10 0.	1.12E-10	0.	0.	0.	0.	0.	9.57E-09	6.36E-10	1.03E-07	7.50E-08	1.91E-07	
18	9.00 0.	1.31E-10	0.	0.	0.	0.	0.	9.61E-09	6.58E-10	1.03E-07	7.49E-08	1.91E-07	
19	8.90 0.	1.49E-10	0.	0.	0.	0.	0.	9.64E-09	6.80E-10	1.03E-07	7.49E-08	1.90E-07	
20	8.80 0.	1.54E-10	0.	0.	0.	0.	0.	9.68E-09	7.04E-10	1.02E-07	7.48E-08	1.90E-07	
21	8.70 0.	1.48E-10	0.	0.	0.	0.	0.	9.71E-09	7.29E-10	1.02E-07	7.47E-08	1.89E-07	
22	8.60 0.	1.43E-10	0.	0.	0.	0.	0.	9.75E-09	7.54E-10	1.02E-07	7.47E-08	1.89E-07	
23	8.50 0.	1.39E-10	0.	0.	0.	0.	0.	9.78E-09	7.81E-10	1.02E-07	7.46E-08	1.88E-07	
24	8.40 0.	1.38E-10	0.	0.	0.	0.	0.	9.83E-09	8.10E-10	1.02E-07	7.46E-08	1.88E-07	
25	8.30 0.	1.37E-10	0.	0.	0.	0.	0.	9.88E-09	8.40E-10	1.02E-07	7.47E-08	1.88E-07	
26	8.20 0.	1.34E-10	0.	0.	0.	0.	0.	9.94E-09	8.71E-10	1.01E-07	7.54E-08	1.89E-07	
27	8.10 0.	1.30E-10	0.	0.	0.	0.	0.	9.99E-09	9.04E-10	1.01E-07	7.60E-08	1.89E-07	
28	8.00 0.	1.26E-10	0.	0.	0.	0.	0.	1.00E-08	9.38E-10	1.01E-07	7.66E-08	1.89E-07	
29	7.90 0.	1.23E-10	0.	0.	0.	0.	0.	1.01E-08	9.74E-10	1.01E-07	7.73E-08	1.90E-07	
30	7.80 0.	1.19E-10	0.	0.	0.	0.	0.	1.01E-08	1.01E-09	1.01E-07	7.79E-08	1.91E-07	
31	7.70 0.	1.14E-10	0.	0.	0.	0.	0.	1.02E-08	1.05E-09	1.01E-07	7.85E-08	1.91E-07	
32	7.60 0.	1.09E-10	0.	0.	0.	0.	0.	1.02E-08	1.09E-09	1.01E-07	7.92E-08	1.92E-07	
33	7.50 0.	1.04E-10	0.	0.	0.	0.	0.	1.03E-08	1.14E-09	1.01E-07	7.98E-08	1.92E-07	
34	7.40 0.	9.86E-11	0.	0.	0.	0.	0.	1.03E-08	1.19E-09	1.00E-07	8.04E-08	1.93E-07	
35	7.30 0.	9.39E-11	0.	0.	0.	0.	0.	1.04E-08	1.24E-09	1.00E-07	8.11E-08	1.94E-07	
36	7.20 0.	8.86E-11	0.	0.	0.	0.	0.	1.05E-08	1.29E-09	1.00E-07	8.17E-08	1.94E-07	
37	7.10 0.	8.33E-11	0.	0.	0.	0.	0.	1.05E-08	1.34E-09	1.00E-07	8.23E-08	1.95E-07	
38	7.00 0.	7.11E-14	0.	0.	0.	0.	0.	1.06E-08	1.40E-09	1.00E-07	8.30E-08	1.96E-07	
39	6.90 0.	1.34E-13	0.	0.	0.	0.	0.	1.07E-08	1.46E-09	1.00E-07	8.36E-08	1.96E-07	
40	6.80 0.	1.12E-13	0.	0.	0.	0.	0.	1.08E-08	1.53E-09	1.00E-07	8.43E-08	1.97E-07	
41	6.70 0.	7.81E-14	0.	0.	0.	0.	0.	1.09E-08	1.60E-09	1.00E-07	8.50E-08	1.98E-07	
42	6.60 0.	4.6E-14	0.	0.	0.	0.	0.	1.10E-08	1.67E-09	1.00E-07	8.57E-08	1.99E-07	
43	6.50 0.	2.54E-14	0.	0.	0.	0.	0.	1.11E-08	1.75E-09	1.01E-07	8.64E-08	2.00E-07	
44	6.40 0.	1.34E-14	0.	0.	0.	0.	0.	1.11E-08	1.84E-09	1.01E-07	8.71E-08	2.02E-07	
45	6.30 0.	7.59E-15	0.	0.	0.	0.	0.	1.12E-08	1.93E-09	1.02E-07	8.81E-08	2.03E-07	
46	6.20 0.	3.25E-15	0.	0.	0.	0.	0.	1.13E-08	2.02E-09	1.02E-07	8.96E-08	2.05E-07	
47	6.10 0.	1.41E-15	0.	0.	0.	0.	0.	1.14E-08	2.12E-09	1.03E-07	9.11E-08	2.08E-07	
48	6.00 0.	5.6E-16	0.	0.	0.	0.	0.	1.15E-08	2.23E-09	1.04E-07	9.26E-08	2.10E-07	
49	5.90 0.	1.33E-16	0.	0.	0.	0.	0.	1.15E-08	2.34E-09	1.05E-07	9.41E-08	2.13E-07	
50	5.80 0.	1.67E-17	0.	0.	0.	0.	0.	1.13E-08	2.47E-09	1.06E-07	9.56E-08	2.15E-07	
51	5.70 0.	1.23E-18	0.	0.	0.	0.	0.	1.06E-08	2.60E-09	1.07E-07	9.71E-08	2.17E-07	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		110.0E-05 (NORMAL)		FREE-FREE		O		TOTAL AIR			
PHOTON 02 S-K		10000.		1.293E-07		PHOTO-DET (IONS)		N		P.E.			
PHOTON 02 S-K	ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIR-ROT	NO 2	O- PHOTO-DET (IONS)	N P.E.	O P.E.		
52	5.60 5.43E-20	0.	0.	0.	2.79E-11	1.92E-10	0.	0.	9.89E-09	2.74E-09	1.08E-07	9.86E-08	2.19E-07
53	5.50 0.	0.	0.	0.	3.43E-11	1.84E-10	0.	0.	9.94E-09	2.90E-09	1.09E-07	1.00E-07	2.23E-07
54	5.40 0.	0.	0.	0.	2.92E-11	1.25E-10	0.	0.	10.00E-09	3.06E-09	1.11E-07	1.02E-07	2.26E-07
55	5.30 0.	0.	0.	0.	3.00E-11	1.81E-10	0.	0.	1.01E-08	3.24E-09	1.13E-07	1.04E-07	2.30E-07
56	5.20 0.	0.	0.	0.	3.12E-11	1.07E-10	0.	0.	1.01E-08	3.43E-09	1.15E-07	1.06E-07	2.35E-07
57	5.10 0.	0.	0.	0.	3.04E-11	1.46E-10	0.	0.	1.02E-08	3.64E-09	1.18E-07	1.08E-07	2.40E-07
58	5.00 6.5E-13	0.	0.	0.	2.67E-11	1.27E-10	0.	0.	1.03E-08	3.86E-09	1.21E-07	1.11E-07	2.46E-07
59	4.90 1.48E-12	0.	0.	0.	2.87E-11	1.20E-10	0.	0.	1.04E-08	4.10E-09	1.25E-07	1.13E-07	2.53E-07
60	4.80 2.56E-12	0.	0.	0.	3.02E-11	1.17E-10	0.	0.	1.05E-08	4.37E-09	1.28E-07	1.16E-07	2.59E-07
61	4.70 3.25E-12	0.	0.	0.	2.88E-11	1.00E-10	0.	0.	1.05E-08	4.65E-09	1.31E-07	1.19E-07	2.65E-07
62	4.60 4.20E-12	0.	0.	0.	2.88E-11	9.31E-11	0.	0.	1.06E-08	4.97E-09	1.36E-07	1.21E-07	2.73E-07
63	4.50 4.20E-12	0.	7.89E-12	0.	2.49E-11	6.65E-11	0.	0.	1.07E-08	5.31E-09	1.41E-07	1.24E-07	2.81E-07
64	4.40 4.24E-12	0.	2.83E-11	0.	2.43E-11	4.87E-11	0.	0.	1.08E-08	5.68E-09	1.46E-07	1.27E-07	2.90E-07
65	4.30 3.8E-12	0.	7.02E-11	0.	2.20E-11	2.78E-11	0.	0.	1.09E-08	6.09E-09	1.51E-07	1.30E-07	2.98E-07
66	4.20 3.41E-12	0.	2.82E-10	0.	2.28E-11	2.19E-11	0.	0.	1.10E-08	6.53E-09	1.56E-07	1.38E-07	3.06E-07
67	4.10 3.07E-12	0.	8.91E-11	0.	2.11E-11	5.66E-12	0.	0.	1.10E-08	7.03E-09	1.60E-07	1.46E-07	3.14E-07
68	4.00 2.71E-12	0.	3.96E-10	0.	1.96E-11	4.33E-12	0.	0.	1.11E-08	7.57E-09	1.64E-07	1.54E-07	3.22E-07
69	3.90 2.18E-12	0.	1.76E-10	8.65E-10	1.68E-11	1.86E-12	0.	0.	1.10E-08	8.17E-09	1.69E-07	1.62E-07	3.30E-07
70	3.80 2.33E-12	0.	2.50E-10	5.90E-09	1.77E-11	0.	0.	0.	1.10E-08	8.84E-09	1.74E-07	1.70E-07	3.38E-07
71	3.70 1.92E-12	0.	3.21E-10	1.42E-09	1.37E-11	0.	0.	0.	1.08E-08	9.58E-09	1.79E-07	1.78E-07	3.46E-07
72	3.60 1.66E-12	0.	1.70E-10	9.04E-09	1.50E-11	0.	0.	0.	1.01E-08	1.13E-08	1.84E-07	1.86E-07	3.54E-07
73	3.50 1.48E-12	0.	2.61E-10	2.71E-08	1.07E-11	0.	0.	0.	9.27E-09	1.13E-08	1.84E-07	1.86E-07	3.62E-07
74	3.40 1.27E-12	0.	1.31E-10	2.08E-09	1.19E-11	0.	0.	0.	5.34E-09	1.24E-08	1.91E-07	1.93E-07	3.70E-07
75	3.30 9.84E-13	0.	1.42E-10	1.15E-08	8.76E-12	0.	0.	0.	5.35E-09	1.35E-08	1.96E-07	1.96E-07	3.78E-07
76	3.20 8.08E-13	0.	8.09E-11	2.87E-08	8.93E-12	0.	0.	0.	5.36E-09	1.48E-08	1.96E-07	1.96E-07	3.86E-07
77	3.10 7.35E-13	0.	6.21E-11	3.25E-09	7.95E-12	0.	0.	0.	5.37E-09	1.63E-08	1.96E-07	1.96E-07	3.94E-07
78	3.00 6.2E-13	0.	3.50E-11	1.14E-08	7.04E-12	0.	0.	0.	5.39E-09	1.80E-08	1.92E-07	1.92E-07	4.02E-07
79	2.90 4.86E-13	0.	2.09E-11	7.47E-09	4.86E-12	0.	0.	0.	5.40E-09	2.00E-08	1.88E-07	1.88E-07	4.10E-07
80	2.80 4.87E-13	0.	9.81E-12	2.83E-09	2.97E-12	0.	0.	0.	5.40E-09	2.22E-08	1.84E-07	1.84E-07	4.18E-07
81	2.70 2.86E-13	0.	4.49E-12	5.57E-09	1.43E-12	0.	0.	0.	5.40E-09	2.48E-08	1.80E-07	1.80E-07	4.26E-07
82	2.60 1.20E-13	0.	2.29E-12	5.20E-10	5.65E-13	0.	0.	0.	5.40E-09	2.78E-08	1.76E-07	1.76E-07	4.34E-07
83	2.50 8.02E-13	0.	2.87E-13	4.04E-10	1.26E-13	0.	0.	0.	5.40E-09	3.13E-08	1.72E-07	1.72E-07	4.42E-07
84	2.40 0.	1.67E-11	0.	4.45E-10	1.27E-14	0.	0.	0.	5.40E-09	3.54E-08	1.68E-07	1.68E-07	4.50E-07
85	2.30 0.	7.23E-11	0.	0.	0.	0.	0.	0.	5.36E-09	4.03E-08	1.64E-07	1.64E-07	4.58E-07
86	2.20 0.	1.57E-10	0.	0.	0.	0.	0.	0.	5.34E-09	4.61E-08	1.60E-07	1.60E-07	4.66E-07
87	2.10 0.	2.15E-10	0.	0.	0.	0.	0.	0.	5.32E-09	5.30E-08	1.56E-07	1.56E-07	4.74E-07
88	2.00 0.	3.60E-10	0.	0.	0.	0.	0.	0.	5.15E-09	6.15E-08	1.52E-07	1.52E-07	4.82E-07
89	1.90 0.	6.69E-10	0.	0.	0.	0.	0.	0.	4.95E-09	7.18E-08	1.48E-07	1.48E-07	4.90E-07
90	1.80 0.	5.44E-10	0.	0.	0.	0.	0.	0.	4.74E-09	8.46E-08	1.44E-07	1.44E-07	4.98E-07
91	1.70 0.	6.58E-10	0.	0.	0.	0.	0.	0.	4.46E-09	1.01E-07	1.40E-07	1.40E-07	5.06E-07
92	1.60 0.	4.61E-10	0.	0.	0.	0.	0.	0.	3.77E-09	1.21E-07	1.36E-07	1.36E-07	5.14E-07
93	1.50 0.	5.65E-10	0.	0.	0.	0.	0.	0.	1.72E-09	1.47E-07	1.32E-07	1.32E-07	5.22E-07
94	1.40 0.	5.93E-10	0.	0.	0.	0.	0.	0.	0.	1.81E-07	1.28E-07	1.28E-07	5.30E-07
95	1.30 0.	4.40E-10	0.	0.	0.	0.	0.	0.	0.	2.27E-07	1.15E-07	1.15E-07	5.38E-07
96	1.20 0.	4.42E-10	0.	0.	0.	0.	0.	0.	0.	2.90E-07	1.01E-06	1.01E-06	5.46E-07
97	1.10 0.	3.70E-10	0.	0.	0.	1.83E-15	0.	0.	0.	3.78E-07	8.91E-07	8.91E-07	5.54E-07
98	1.00 0.	3.43E-10	0.	0.	0.	1.68E-14	0.	0.	0.	5.05E-07	1.60E-06	1.60E-06	5.62E-07
99	0.90 0.	2.78E-10	0.	0.	0.	2.06E-14	0.	0.	0.	6.95E-07	1.87E-06	1.87E-06	5.70E-07
100	0.80 0.	1.29E-10	0.	0.	0.	3.59E-13	0.	0.	0.	1.00E-06	2.11E-06	2.11E-06	5.78E-07
101	0.70 0.	3.37E-11	0.	0.	0.	2.48E-13	0.	0.	0.	1.51E-06	1.85E-06	1.85E-06	5.86E-07
102	0.60 0.	2.36E-12	0.	0.	0.	9.85E-13	0.	0.	0.	2.41E-06	2.08E-06	2.08E-06	5.94E-07

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1000C.		DENSITY (GM/CC)		1.293E-08 (1.0E-05 NORMAL)		FREE-FREE (IUNS)		N		P.E.		TOTAL AIR	
PHOTO 02 S-R	02 S-R	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14
ENERGY BANDS	CONT.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14
E.V.															
1	10.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50 0.	1.79E-13	1.29E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40 0.	2.41E-13	1.15E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30 0.	3.03E-13	1.16E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20 0.	3.66E-13	8.72E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10 0.	4.36E-13	8.92E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00 0.	5.07E-13	7.61E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90 0.	5.78E-13	6.63E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80 0.	5.97E-13	6.34E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70 0.	5.75E-13	5.08E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60 0.	5.53E-13	5.15E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50 0.	5.40E-13	4.16E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40 0.	5.35E-13	4.03E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30 0.	5.30E-13	3.17E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20 0.	5.19E-13	3.12E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10 0.	5.04E-13	2.50E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00 0.	4.89E-13	2.44E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90 0.	4.75E-13	1.96E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80 0.	4.61E-13	1.96E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70 0.	4.43E-13	1.61E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60 0.	4.22E-13	1.46E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50 0.	4.01E-13	1.27E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40 0.	3.82E-13	1.09E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30 0.	3.64E-13	9.78E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20 0.	3.43E-13	8.34E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10 0.	3.22E-13	7.62E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00 2.77E-16	0.	6.60E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90 5.23E-16	0.	5.74E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80 4.35E-16	0.	5.20E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70 3.04E-16	0.	4.29E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60 1.79E-16	0.	3.62E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50 9.92E-17	0.	2.68E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40 5.34E-17	0.	1.67E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30 2.96E-17	0.	9.29E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20 1.27E-17	0.	4.64E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10 5.44E-18	0.	1.98E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00 2.18E-18	0.	4.73E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90 5.14E-19	0.	3.36E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80 6.53E-20	0.	8.28E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70 4.74E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		FREE-FREE		TOTAL AIR							
ENERGY	RANDS	1ST POS.	2ND POS.	1ST NEG.	2ND NEG.	NC	BETA	NO	VIB-ROT	NO	PHOTO-OET (IONS)	N	P.E.	O	P.E.
52	2.60	2.14E-22	0.	0.	0.	9.52E-14	6.55E-13	0.	0.	0.	1.46E-10	1.53E-10	5.89E-09	6.16E-09	1.24E-08
53	5.50	0.	0.	0.	0.	1.17E-13	6.29E-13	0.	0.	0.	1.47E-10	1.62E-10	5.98E-09	6.25E-09	1.25E-08
54	5.40	0.	0.	0.	0.	9.95E-14	4.25E-13	0.	0.	0.	1.47E-10	1.71E-10	6.08E-09	6.36E-09	1.28E-08
55	5.30	0.	0.	0.	0.	1.02E-13	6.17E-13	0.	0.	0.	1.48E-10	1.81E-10	6.18E-09	6.47E-09	1.30E-08
56	5.20	0.	0.	0.	0.	1.06E-13	3.66E-13	0.	0.	0.	1.49E-10	1.92E-10	6.28E-09	6.62E-09	1.32E-08
57	5.10	0.	0.	0.	0.	1.03E-13	4.97E-13	0.	0.	0.	1.51E-10	2.03E-10	6.45E-09	6.77E-09	1.36E-08
58	5.00	2.5E-15	0.	0.	0.	9.11E-14	4.33E-13	0.	0.	0.	1.52E-10	2.16E-10	6.62E-09	6.92E-09	1.39E-08
59	4.90	5.7E-15	0.	0.	0.	9.80E-14	4.36E-13	0.	0.	0.	1.53E-10	2.29E-10	6.81E-09	7.07E-09	1.43E-08
60	4.80	1.01E-14	0.	0.	0.	1.03E-13	4.00E-13	0.	0.	0.	1.54E-10	2.44E-10	7.00E-09	7.23E-09	1.46E-08
61	4.70	1.27E-14	0.	0.	0.	9.81E-14	3.41E-13	0.	0.	0.	1.56E-10	2.60E-10	7.14E-09	7.40E-09	1.50E-08
62	4.60	1.64E-14	0.	0.	0.	9.81E-14	3.17E-13	0.	0.	0.	1.57E-10	2.77E-10	7.41E-09	7.59E-09	1.54E-08
63	4.50	1.64E-14	0.	0.	0.	8.50E-14	2.27E-13	0.	0.	0.	1.58E-10	2.96E-10	7.69E-09	7.77E-09	1.59E-08
64	4.40	1.65E-14	0.	0.	0.	8.29E-14	1.66E-13	0.	0.	0.	1.60E-10	3.17E-10	7.96E-09	7.95E-09	1.64E-08
65	4.30	1.48E-14	0.	0.	0.	7.51E-14	9.47E-14	0.	0.	0.	1.61E-10	3.40E-10	8.25E-09	8.12E-09	1.69E-08
66	4.20	1.33E-14	0.	0.	0.	7.77E-14	7.47E-14	0.	0.	0.	1.62E-10	3.65E-10	8.55E-09	1.36E-09	1.04E-08
67	4.10	1.20E-14	0.	0.	0.	7.19E-14	1.93E-14	0.	0.	0.	1.63E-10	3.93E-10	7.08E-09	1.40E-09	9.03E-09
68	4.00	1.06E-14	0.	0.	0.	6.67E-14	1.48E-14	0.	0.	0.	1.63E-10	4.23E-10	5.45E-09	1.44E-09	7.48E-09
69	3.90	8.48E-15	0.	0.	0.	5.24E-13	1.09E-11	0.	0.	0.	1.63E-10	4.57E-10	5.64E-09	1.48E-09	7.75E-09
70	3.80	9.07E-15	0.	0.	0.	7.45E-13	7.45E-11	0.	0.	0.	1.62E-10	4.94E-10	5.82E-09	1.53E-09	8.08E-09
71	3.70	7.48E-15	0.	0.	0.	9.57E-13	1.79E-11	0.	0.	0.	1.60E-10	5.35E-10	5.13E-09	1.72E-09	7.56E-09
72	3.60	6.48E-15	0.	0.	0.	5.06E-13	1.14E-10	0.	0.	0.	1.49E-10	5.81E-10	5.64E-09	1.94E-09	8.42E-09
73	3.50	5.76E-15	0.	0.	0.	7.77E-13	2.42E-10	0.	0.	0.	1.37E-10	6.33E-10	6.36E-09	2.17E-09	9.64E-09
74	3.40	4.96E-15	0.	0.	0.	3.91E-13	2.63E-11	0.	0.	0.	7.89E-11	6.91E-10	7.17E-09	2.42E-09	1.04E-08
75	3.30	3.84E-15	0.	0.	0.	4.24E-13	1.45E-10	0.	0.	0.	7.90E-11	7.56E-10	7.99E-09	2.67E-09	1.16E-08
76	3.20	3.15E-15	0.	0.	0.	2.41E-13	3.42E-10	0.	0.	0.	7.91E-11	8.29E-10	8.82E-09	2.94E-09	1.30E-08
77	3.10	2.86E-15	0.	0.	0.	1.85E-13	4.10E-11	0.	0.	0.	7.93E-11	9.13E-10	9.66E-09	3.21E-09	1.39E-08
78	3.00	2.42E-15	0.	0.	0.	1.04E-13	1.44E-11	0.	0.	0.	7.95E-11	1.01E-09	1.05E-08	3.47E-09	1.52E-08
79	2.90	1.90E-15	0.	0.	0.	6.22E-14	9.43E-11	0.	0.	0.	7.96E-11	1.12E-09	1.14E-08	3.74E-09	1.64E-08
80	2.80	1.90E-15	0.	0.	0.	2.92E-14	3.56E-11	0.	0.	0.	7.98E-11	1.24E-09	1.23E-08	4.03E-09	1.77E-08
81	2.70	1.11E-15	0.	0.	0.	1.34E-14	7.03E-11	0.	0.	0.	7.98E-11	1.39E-09	1.33E-08	4.44E-09	1.63E-08
82	2.60	4.67E-16	0.	0.	0.	6.83E-15	6.56E-12	0.	0.	0.	7.98E-11	1.55E-09	6.83E-09	1.56E-09	1.00E-08
83	2.50	3.12E-17	0.	0.	0.	8.57E-16	5.10E-12	0.	0.	0.	7.98E-11	1.75E-09	8.12E-09	1.79E-09	1.17E-08
84	2.40	0.	0.	0.	0.	4.97E-14	0.	0.	0.	0.	7.98E-11	1.98E-09	1.01E-08	2.21E-09	1.44E-08
85	2.30	0.	0.	0.	0.	2.16E-13	0.	0.	0.	0.	7.91E-11	2.25E-09	1.22E-08	2.65E-09	1.72E-08
86	2.20	0.	0.	0.	0.	4.67E-13	0.	0.	0.	0.	7.88E-11	2.58E-09	1.45E-08	3.19E-09	2.03E-08
87	2.10	0.	0.	0.	0.	6.41E-13	0.	0.	0.	0.	7.85E-11	2.96E-09	1.68E-08	3.74E-09	2.36E-08
88	2.00	0.	0.	0.	0.	1.07E-12	0.	0.	0.	0.	7.60E-11	3.44E-09	1.92E-08	4.28E-09	2.70E-08
89	1.90	0.	0.	0.	0.	1.99E-12	0.	0.	0.	0.	7.31E-11	4.01E-09	2.17E-08	4.86E-09	3.07E-08
90	1.80	0.	0.	0.	0.	1.62E-12	0.	0.	0.	0.	6.99E-11	4.73E-09	2.56E-08	5.78E-09	3.62E-08
91	1.70	0.	0.	0.	0.	1.96E-12	0.	0.	0.	0.	6.58E-11	5.62E-09	3.03E-08	6.94E-09	4.30E-08
92	1.60	0.	0.	0.	0.	1.37E-12	0.	0.	0.	0.	5.57E-11	6.76E-09	3.17E-08	7.56E-09	4.61E-08
93	1.50	0.	0.	0.	0.	1.69E-12	0.	0.	0.	0.	2.53E-11	8.22E-09	4.02E-08	8.96E-09	5.74E-08
94	1.40	0.	0.	0.	0.	1.77E-12	0.	0.	0.	0.	0.	1.01E-08	3.12E-08	7.06E-09	4.84E-08
95	1.30	0.	0.	0.	0.	1.31E-12	0.	0.	0.	0.	0.	1.27E-08	4.45E-08	1.01E-08	6.73E-08
96	1.20	0.	0.	0.	0.	1.32E-12	0.	0.	0.	0.	0.	1.62E-08	5.99E-08	1.20E-08	8.81E-08
97	1.10	0.	0.	0.	0.	1.10E-12	0.	0.	0.	0.	0.	2.11E-08	7.20E-08	1.52E-08	1.08E-07
98	1.00	0.	0.	0.	0.	1.02E-12	0.	0.	0.	0.	0.	2.42E-08	8.72E-08	1.85E-08	1.34E-07
99	0.90	0.	0.	0.	0.	8.27E-13	0.	0.	0.	0.	0.	3.88E-08	1.00E-07	2.13E-08	1.60E-07
100	0.80	0.	0.	0.	0.	3.86E-13	0.	0.	0.	0.	0.	5.59E-08	9.96E-08	2.45E-08	1.80E-07
101	0.70	0.	0.	0.	0.	1.01E-13	0.	0.	0.	0.	0.	8.44E-08	1.01E-07	2.00E-08	2.05E-07
102	0.60	0.	0.	0.	0.	7.94E-15	0.	0.	0.	0.	0.	1.35E-07	1.13E-07	2.26E-08	2.71E-07

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-09 (1.0E-06 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	PHOTO-DET (IUNS)	PHOTO-DET (IUNS)	N	P.E.	P.E.	P.E.	0	P.E.
E.V.	CONT.	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R
1 10.70 0.	0.	2.58E-14	0.	0.	0.	0.	0.	5.85E-13	5.33E-13	4.64E-10	1.30E-10	5.95E-10	5.95E-10	1.30E-10	5.95E-10
2 10.60 0.	0.	2.22E-14	0.	0.	0.	0.	0.	5.85E-13	5.49E-13	4.67E-10	1.30E-10	5.98E-10	5.98E-10	1.30E-10	5.98E-10
3 10.50 0.	0.	2.17E-14	0.	0.	0.	0.	0.	5.86E-13	5.65E-13	4.69E-10	1.30E-10	6.00E-10	6.00E-10	1.30E-10	6.00E-10
4 10.40 0.	0.	1.95E-14	0.	0.	0.	0.	0.	5.87E-13	5.81E-13	4.71E-10	1.29E-10	6.02E-10	6.02E-10	1.29E-10	6.02E-10
5 10.30 0.	0.	1.61E-14	0.	0.	0.	0.	0.	5.88E-13	5.98E-13	4.72E-10	1.29E-10	6.03E-10	6.03E-10	1.29E-10	6.03E-10
6 10.20 0.	0.	1.60E-14	0.	0.	0.	0.	0.	5.88E-13	6.16E-13	4.73E-10	1.29E-10	6.04E-10	6.04E-10	1.29E-10	6.04E-10
7 10.10 0.	0.	1.45E-14	0.	0.	0.	0.	0.	5.89E-13	6.35E-13	4.75E-10	1.29E-10	6.05E-10	6.05E-10	1.29E-10	6.05E-10
8 10.00 0.	0.	1.18E-14	0.	0.	0.	0.	0.	5.90E-13	6.54E-13	4.76E-10	1.29E-10	6.06E-10	6.06E-10	1.29E-10	6.06E-10
9 9.90 0.	0.	1.19E-14	0.	0.	0.	0.	0.	5.91E-13	6.74E-13	4.77E-10	1.29E-10	6.07E-10	6.07E-10	1.29E-10	6.07E-10
10 9.80 0.	0.	1.06E-14	0.	0.	0.	0.	0.	5.92E-13	6.95E-13	4.78E-10	1.29E-10	6.08E-10	6.08E-10	1.29E-10	6.08E-10
11 9.70 0.	0.	8.53E-15	0.	0.	0.	0.	0.	5.93E-13	7.17E-13	4.79E-10	1.29E-10	6.09E-10	6.09E-10	1.29E-10	6.09E-10
12 9.60 0.	0.	9.15E-15	0.	0.	0.	0.	0.	5.94E-13	7.39E-13	4.81E-10	1.29E-10	6.11E-10	6.11E-10	1.29E-10	6.11E-10
13 9.50 0.	0.	1.33E-16	0.	0.	0.	0.	0.	5.95E-13	7.63E-13	4.82E-10	1.28E-10	6.12E-10	6.12E-10	1.28E-10	6.12E-10
14 9.40 0.	0.	1.80E-16	0.	0.	0.	0.	0.	5.98E-13	7.88E-13	1.35E-10	1.28E-10	6.24E-10	6.24E-10	1.28E-10	6.24E-10
15 9.30 0.	0.	2.26E-16	0.	0.	0.	0.	0.	6.00E-13	8.14E-13	1.34E-10	1.28E-10	6.44E-10	6.44E-10	1.28E-10	6.44E-10
16 9.20 0.	0.	2.72E-16	0.	0.	0.	0.	0.	6.02E-13	8.41E-13	1.34E-10	1.28E-10	6.64E-10	6.64E-10	1.28E-10	6.64E-10
17 9.10 0.	0.	3.24E-16	0.	0.	0.	0.	0.	6.04E-13	8.69E-13	1.34E-10	1.28E-10	6.84E-10	6.84E-10	1.28E-10	6.84E-10
18 9.00 0.	0.	3.77E-16	0.	0.	0.	0.	0.	6.06E-13	8.98E-13	1.33E-10	1.28E-10	7.04E-10	7.04E-10	1.28E-10	7.04E-10
19 8.90 0.	0.	4.30E-16	0.	0.	0.	0.	0.	6.08E-13	9.29E-13	1.33E-10	1.28E-10	7.24E-10	7.24E-10	1.28E-10	7.24E-10
20 8.80 0.	0.	4.45E-16	0.	0.	0.	0.	0.	6.11E-13	9.61E-13	1.33E-10	1.28E-10	7.44E-10	7.44E-10	1.28E-10	7.44E-10
21 8.70 0.	0.	4.28E-16	0.	0.	0.	0.	0.	6.13E-13	9.95E-13	1.33E-10	1.28E-10	7.64E-10	7.64E-10	1.28E-10	7.64E-10
22 8.60 0.	0.	4.12E-16	0.	0.	0.	0.	0.	6.15E-13	1.03E-12	1.32E-10	1.28E-10	7.84E-10	7.84E-10	1.28E-10	7.84E-10
23 8.50 0.	0.	4.02E-16	0.	0.	0.	0.	0.	6.17E-13	1.07E-12	1.32E-10	1.27E-10	8.04E-10	8.04E-10	1.27E-10	8.04E-10
24 8.40 0.	0.	3.99E-16	0.	0.	0.	0.	0.	6.20E-13	1.11E-12	1.32E-10	1.27E-10	8.24E-10	8.24E-10	1.27E-10	8.24E-10
25 8.30 0.	0.	3.95E-16	0.	0.	0.	0.	0.	6.23E-13	1.15E-12	1.32E-10	1.28E-10	8.44E-10	8.44E-10	1.28E-10	8.44E-10
26 8.20 0.	0.	3.86E-16	0.	0.	0.	0.	0.	6.27E-13	1.19E-12	1.31E-10	1.29E-10	8.64E-10	8.64E-10	1.29E-10	8.64E-10
27 8.10 0.	0.	3.75E-16	0.	0.	0.	0.	0.	6.30E-13	1.23E-12	1.31E-10	1.30E-10	8.84E-10	8.84E-10	1.30E-10	8.84E-10
28 8.00 0.	0.	3.64E-16	0.	0.	0.	0.	0.	6.33E-13	1.28E-12	1.31E-10	1.31E-10	9.04E-10	9.04E-10	1.31E-10	9.04E-10
29 7.90 0.	0.	3.54E-16	0.	0.	0.	0.	0.	6.36E-13	1.33E-12	1.31E-10	1.32E-10	9.24E-10	9.24E-10	1.32E-10	9.24E-10
30 7.80 0.	0.	3.43E-16	0.	0.	0.	0.	0.	6.40E-13	1.38E-12	1.31E-10	1.33E-10	9.44E-10	9.44E-10	1.33E-10	9.44E-10
31 7.70 0.	0.	3.30E-16	0.	0.	0.	0.	0.	6.43E-13	1.44E-12	1.31E-10	1.34E-10	9.64E-10	9.64E-10	1.34E-10	9.64E-10
32 7.60 0.	0.	3.14E-16	0.	0.	0.	0.	0.	6.46E-13	1.49E-12	1.30E-10	1.35E-10	9.84E-10	9.84E-10	1.35E-10	9.84E-10
33 7.50 0.	0.	2.99E-16	0.	0.	0.	0.	0.	6.49E-13	1.56E-12	1.30E-10	1.36E-10	1.00E-10	1.00E-10	1.36E-10	1.00E-10
34 7.40 0.	0.	2.84E-16	0.	0.	0.	0.	0.	6.53E-13	1.62E-12	1.30E-10	1.37E-10	1.02E-10	1.02E-10	1.37E-10	1.02E-10
35 7.30 0.	0.	2.71E-16	0.	0.	0.	0.	0.	6.57E-13	1.69E-12	1.30E-10	1.38E-10	1.04E-10	1.04E-10	1.38E-10	1.04E-10
36 7.20 0.	0.	2.56E-16	0.	0.	0.	0.	0.	6.60E-13	1.76E-12	1.30E-10	1.40E-10	1.06E-10	1.06E-10	1.40E-10	1.06E-10
37 7.10 0.	0.	2.40E-16	0.	0.	0.	0.	0.	6.66E-13	1.83E-12	1.30E-10	1.41E-10	1.08E-10	1.08E-10	1.41E-10	1.08E-10
38 7.00 0.	0.	2.07E-19	0.	0.	0.	0.	0.	6.71E-13	1.91E-12	1.30E-10	1.42E-10	1.10E-10	1.10E-10	1.42E-10	1.10E-10
39 6.90 0.	0.	3.91E-19	0.	0.	0.	0.	0.	6.77E-13	2.00E-12	1.30E-10	1.43E-10	1.12E-10	1.12E-10	1.43E-10	1.12E-10
40 6.80 0.	0.	3.25E-19	0.	0.	0.	0.	0.	6.82E-13	2.09E-12	1.30E-10	1.44E-10	1.14E-10	1.14E-10	1.44E-10	1.14E-10
41 6.70 0.	0.	2.24E-19	0.	0.	0.	0.	0.	6.87E-13	2.18E-12	1.30E-10	1.45E-10	1.16E-10	1.16E-10	1.45E-10	1.16E-10
42 6.60 0.	0.	1.34E-19	0.	0.	0.	0.	0.	6.93E-13	2.29E-12	1.30E-10	1.46E-10	1.18E-10	1.18E-10	1.46E-10	1.18E-10
43 6.50 0.	0.	7.42E-20	0.	0.	0.	0.	0.	6.98E-13	2.39E-12	1.31E-10	1.48E-10	1.20E-10	1.20E-10	1.48E-10	1.20E-10
44 6.40 0.	0.	4.02E-20	0.	0.	0.	0.	0.	7.04E-13	2.51E-12	1.31E-10	1.49E-10	1.22E-10	1.22E-10	1.49E-10	1.22E-10
45 6.30 0.	0.	2.24E-20	0.	0.	0.	0.	0.	7.09E-13	2.63E-12	1.32E-10	1.50E-10	1.24E-10	1.24E-10	1.50E-10	1.24E-10
46 6.20 0.	0.	3.49E-21	0.	0.	0.	0.	0.	7.14E-13	2.76E-12	1.32E-10	1.53E-10	1.26E-10	1.26E-10	1.53E-10	1.26E-10
47 6.10 0.	0.	4.11E-21	0.	0.	0.	0.	0.	7.20E-13	2.90E-12	1.33E-10	1.56E-10	1.28E-10	1.28E-10	1.56E-10	1.28E-10
48 6.00 0.	0.	1.63E-21	0.	0.	0.	0.	0.	7.25E-13	3.04E-12	1.35E-10	1.58E-10	1.30E-10	1.30E-10	1.58E-10	1.30E-10
49 5.90 0.	0.	3.87E-22	0.	0.	0.	0.	0.	7.25E-13	3.20E-12	1.36E-10	1.61E-10	1.32E-10	1.32E-10	1.61E-10	1.32E-10
50 5.80 0.	0.	4.88E-23	0.	0.	0.	0.	0.	7.14E-13	3.37E-12	1.37E-10	1.63E-10	1.34E-10	1.34E-10	1.63E-10	1.34E-10
51 5.70 0.	0.	3.52E-24	0.	0.	0.	0.	0.	6.71E-13	3.55E-12	1.38E-10	1.66E-10	1.36E-10	1.36E-10	1.66E-10	1.36E-10



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-09 (1.0E-06 NORMAL)		FREE-DEET (IONS)		N		O		TOTAL AIR	
PHOTON U2 S-R	ENERGY PANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N2+ 2ND NEG.	N2+ 3RD NEG.	N2+ 4TH NEG.	N2+ 5TH NEG.	N2+ 6TH NEG.	N2+ 7TH NEG.	N2+ 8TH NEG.	N2+ 9TH NEG.	N2+ 10TH NEG.
52	5.60	1.58E-25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
53	5.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
54	5.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	5.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	5.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	5.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	5.00	1.89E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	4.90	4.31E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	4.80	7.53E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	4.70	9.47E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	4.60	1.23E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
63	4.50	1.22E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
64	4.40	1.24E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
65	4.30	1.11E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
66	4.20	9.95E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
67	4.10	8.96E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
68	4.00	7.9CE-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
69	3.90	6.34E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	3.80	6.79E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	3.70	5.59E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
72	3.60	4.84E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
73	3.50	4.31E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
74	3.40	3.71E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
75	3.30	2.87E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
76	3.20	2.35E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
77	3.10	2.14E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
78	3.00	1.81E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
79	2.90	1.42E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	2.80	1.42E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
81	2.70	8.33E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82	2.60	3.49E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
83	2.50	2.34E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
84	2.40	0.	2.80E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85	2.30	0.	1.22E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
86	2.20	0.	2.64E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87	2.10	0.	3.61E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
88	2.00	0.	6.05E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
89	1.90	0.	1.12E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90	1.80	0.	9.15E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
91	1.70	0.	1.11E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92	1.60	0.	7.75E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
93	1.50	0.	9.51E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
94	1.40	0.	9.97E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	7.40E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	7.43E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	6.22E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	5.76E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	0.	4.67E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	0.	2.18E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	0.	5.67E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	0.	3.97E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		11000.	DENSITY (GM/CC)		1.293E-02 ( 1.0E 01 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTO 4 U2 S-R	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2
ENERGY BANDS	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2
E.V.	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2
1 10.70 0.	2.58E 01	0.	0.	0.	0.	0.	6.74E-01	3.10E-04	5.00E 01	2.50E-02	7.65E 01	0.	0.	0.
2 10.60 0.	2.24E 01	0.	0.	0.	0.	0.	6.74E-01	3.18E-04	7.32E-02	2.50E-02	2.32E 01	0.	0.	0.
3 10.50 0.	2.21E 01	0.	0.	0.	0.	0.	6.75E-01	3.28E-04	7.36E-02	2.50E-02	2.28E 01	0.	0.	0.
4 10.40 0.	2.01E 01	0.	0.	0.	0.	0.	6.76E-01	3.37E-04	7.39E-02	2.49E-02	2.09E 01	0.	0.	0.
5 10.30 0.	1.67E 01	0.	0.	0.	0.	0.	6.77E-01	3.47E-04	7.41E-02	2.49E-02	1.75E 01	0.	0.	0.
6 10.20 0.	1.64E 01	0.	0.	0.	0.	0.	6.78E-01	3.58E-04	7.43E-02	2.49E-02	1.76E 01	0.	0.	0.
7 10.10 0.	1.53E 01	0.	0.	0.	0.	0.	6.79E-01	3.68E-04	7.44E-02	2.48E-02	1.61E 01	0.	0.	0.
8 10.00 0.	1.27E 01	0.	0.	0.	0.	0.	6.80E-01	3.80E-04	7.46E-02	2.48E-02	1.35E 01	0.	0.	0.
9 9.90 0.	1.29E 01	0.	0.	0.	0.	0.	6.81E-01	3.91E-04	7.48E-02	2.47E-02	1.36E 01	0.	0.	0.
10 9.80 0.	1.16E 01	0.	0.	0.	0.	0.	6.82E-01	4.03E-04	7.50E-02	2.47E-02	1.24E 01	0.	0.	0.
11 9.70 0.	9.46E 00	0.	0.	0.	0.	0.	6.84E-01	4.16E-04	7.52E-02	2.47E-02	1.02E 01	0.	0.	0.
12 9.60 0.	1.02E 01	0.	0.	0.	0.	0.	6.85E-01	4.29E-04	7.54E-02	2.46E-02	1.09E 01	0.	0.	0.
13 9.50 0.	8.18E 00	0.	0.	0.	0.	0.	6.86E-01	4.43E-04	7.56E-02	2.46E-02	8.96E 00	0.	0.	0.
14 9.40 0.	7.40E 00	0.	0.	0.	0.	0.	6.89E-01	4.57E-04	7.58E-02	2.46E-02	8.19E 00	0.	0.	0.
15 9.30 0.	7.49E 00	0.	0.	0.	0.	0.	6.91E-01	4.72E-04	7.60E-02	2.45E-02	8.28E 00	0.	0.	0.
16 9.20 0.	5.75E 00	0.	0.	0.	0.	0.	6.94E-01	4.88E-04	7.62E-02	2.45E-02	6.55E 00	0.	0.	0.
17 9.10 0.	5.88E 00	0.	0.	0.	0.	0.	6.96E-01	5.04E-04	2.18E-02	2.45E-02	6.62E 00	0.	0.	0.
18 9.00 0.	5.09E 00	0.	0.	0.	0.	0.	6.99E-01	5.21E-04	2.18E-02	2.44E-02	5.84E 00	0.	0.	0.
19 8.90 0.	4.49E 00	0.	0.	0.	0.	0.	7.01E-01	5.39E-04	2.17E-02	2.44E-02	5.24E 00	0.	0.	0.
20 8.80 0.	4.32E 00	0.	0.	0.	0.	0.	7.04E-01	5.58E-04	2.17E-02	2.44E-02	5.07E 00	0.	0.	0.
21 8.70 0.	3.52E 00	0.	0.	0.	0.	0.	7.06E-01	5.78E-04	2.17E-02	2.43E-02	4.27E 00	0.	0.	0.
22 8.60 0.	3.58E 00	0.	0.	0.	0.	0.	7.09E-01	5.98E-04	2.16E-02	2.43E-02	4.33E 00	0.	0.	0.
23 8.50 0.	2.95E 00	0.	0.	0.	0.	0.	7.11E-01	6.20E-04	2.16E-02	2.43E-02	3.70E 00	0.	0.	0.
24 8.40 0.	2.86E 00	0.	0.	0.	0.	0.	7.15E-01	6.42E-04	2.16E-02	2.42E-02	3.63E 00	0.	0.	0.
25 8.30 0.	2.29E 00	0.	0.	0.	0.	0.	7.19E-01	6.66E-04	2.16E-02	2.43E-02	3.05E 00	0.	0.	0.
26 8.20 0.	2.27E 00	0.	0.	0.	0.	0.	7.22E-01	6.91E-04	2.16E-02	2.44E-02	3.04E 00	0.	0.	0.
27 8.10 0.	1.85E 00	0.	0.	0.	0.	0.	7.26E-01	7.17E-04	2.15E-02	2.46E-02	2.62E 00	0.	0.	0.
28 8.00 0.	1.81E 00	0.	0.	0.	0.	0.	7.30E-01	7.44E-04	2.15E-02	2.48E-02	2.59E 00	0.	0.	0.
29 7.90 0.	1.48E 00	0.	0.	0.	0.	0.	7.33E-01	7.73E-04	2.15E-02	2.50E-02	2.26E 00	0.	0.	0.
30 7.80 0.	1.49E 00	0.	0.	0.	0.	0.	7.37E-01	8.03E-04	2.15E-02	2.51E-02	2.28E 00	0.	0.	0.
31 7.70 0.	1.24E 00	0.	0.	0.	0.	0.	7.41E-01	8.34E-04	2.15E-02	2.53E-02	2.03E 00	0.	0.	0.
32 7.60 0.	1.14E 00	0.	0.	0.	0.	0.	7.45E-01	8.68E-04	2.16E-02	2.55E-02	1.93E 00	0.	0.	0.
33 7.50 0.	1.00E 00	0.	0.	0.	0.	0.	7.48E-01	9.03E-04	2.16E-02	2.57E-02	1.80E 00	0.	0.	0.
34 7.40 0.	8.67E-01	0.	0.	0.	0.	0.	7.53E-01	9.40E-04	2.16E-02	2.58E-02	1.67E 00	0.	0.	0.
35 7.30 0.	7.98E-01	0.	0.	0.	0.	0.	7.57E-01	9.80E-04	2.16E-02	2.60E-02	1.61E 00	0.	0.	0.
36 7.20 0.	6.81E-01	0.	0.	0.	0.	0.	7.61E-01	1.02E-03	2.16E-02	2.62E-02	1.53E 00	0.	0.	0.
37 7.10 0.	6.28E-01	0.	0.	0.	0.	0.	7.67E-01	1.06E-03	2.16E-02	2.64E-02	1.55E 00	0.	0.	0.
38 7.00 0.	5.51E-01	0.	0.	0.	0.	0.	7.73E-01	1.11E-03	2.17E-02	2.66E-02	1.64E 00	0.	0.	0.
39 6.90 0.	4.85E-01	0.	0.	0.	0.	0.	7.80E-01	1.16E-03	2.17E-02	2.67E-02	1.59E 00	0.	0.	0.
40 6.80 0.	4.45E-01	0.	0.	0.	0.	0.	7.86E-01	1.21E-03	2.17E-02	2.69E-02	1.85E 00	0.	0.	0.
41 6.70 0.	3.72E-01	0.	0.	0.	0.	0.	7.92E-01	1.27E-03	2.17E-02	2.71E-02	1.89E 00	0.	0.	0.
42 6.60 0.	3.18E-01	0.	0.	0.	0.	0.	7.98E-01	1.33E-03	2.18E-02	2.73E-02	1.59E 00	0.	0.	0.
43 6.50 0.	2.39E-01	0.	0.	0.	0.	0.	8.05E-01	1.39E-03	2.19E-02	2.75E-02	1.84E 00	0.	0.	0.
44 6.40 0.	1.52E-01	0.	0.	0.	0.	0.	8.11E-01	1.45E-03	2.20E-02	2.77E-02	1.85E 00	0.	0.	0.
45 6.30 0.	8.68E-02	0.	0.	0.	0.	0.	8.17E-01	1.53E-03	2.21E-02	2.80E-02	1.42E 00	0.	0.	0.
46 6.20 0.	4.43E-02	0.	0.	0.	0.	0.	8.23E-01	1.60E-03	2.23E-02	2.85E-02	1.62E 00	0.	0.	0.
47 6.10 0.	1.93E-02	0.	0.	0.	0.	0.	8.30E-01	1.68E-03	2.25E-02	2.89E-02	1.96E 00	0.	0.	0.
48 6.00 0.	4.67E-03	0.	0.	0.	0.	0.	8.36E-01	1.77E-03	2.27E-02	2.93E-02	1.35E 00	0.	0.	0.
49 5.90 0.	3.33E-04	0.	0.	0.	0.	0.	8.36E-01	1.77E-03	2.27E-02	2.93E-02	1.35E 00	0.	0.	0.
50 5.80 0.	1.15E-07	0.	0.	0.	0.	0.	8.23E-01	1.96E-03	2.32E-02	3.02E-02	1.39E 00	0.	0.	0.
51 5.70 0.	8.46E-09	0.	0.	0.	0.	0.	7.73E-01	2.06E-03	2.34E-02	3.07E-02	1.38E 00	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)				
PHOTON O2 S-R ENERGY BANDS	N2 1ST PUS.	N2 2ND PUS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52	5.60 3.7E-10	0.	0.	9.58E-02	6.47E-01	0.	0.	7.19E-01	2.18E-03	2.37E-02	3.11E-02	1.52E 00
53	5.50 0.	0.	0.	1.17E-01	6.15E-01	0.	0.	7.23E-01	2.30E-03	2.41E-02	3.16E-02	1.51E 00
54	5.40 0.	0.	0.	1.01E-01	4.34E-01	0.	0.	7.27E-01	2.43E-03	2.45E-02	3.21E-02	1.32E 00
55	5.30 0.	0.	0.	1.04E-01	6.09E-01	0.	0.	7.31E-01	2.57E-03	2.50E-02	3.26E-02	1.50E 00
56	5.20 0.	0.	0.	1.09E-01	3.80E-01	0.	0.	7.36E-01	2.72E-03	2.55E-02	3.34E-02	1.29E 00
57	5.10 0.	0.	0.	1.07E-01	5.10E-01	0.	0.	7.42E-01	2.89E-03	2.62E-02	3.41E-02	1.42E 00
58	5.00 4.6E-03	0.	0.	9.48E-02	4.50E-01	0.	0.	7.48E-01	3.06E-03	2.69E-02	3.48E-02	1.36E 00
59	4.90 1.07E-02	0.	0.	1.03E-01	4.62E-01	0.	0.	7.55E-01	3.26E-03	2.77E-02	3.56E-02	1.40E 00
60	4.80 1.84E-02	0.	0.	1.04E-01	4.25E-01	0.	0.	7.61E-01	3.46E-03	2.85E-02	3.63E-02	1.38E 00
61	4.70 2.41E-02	0.	0.	1.05E-01	3.69E-01	0.	0.	7.67E-01	3.69E-03	2.93E-02	3.72E-02	1.34E 00
62	4.60 3.1E-02	0.	0.	1.05E-01	3.41E-01	0.	0.	7.73E-01	3.94E-03	3.03E-02	3.81E-02	1.32E 00
63	4.50 3.19E-02	0.	2.34E-02	9.19E-02	2.47E-01	0.	0.	7.80E-01	4.21E-03	3.15E-02	3.91E-02	1.25E 00
64	4.40 3.2E-02	0.	8.09E-02	9.03E-02	1.79E-01	0.	0.	7.86E-01	4.51E-03	3.27E-02	4.00E-02	1.25E 00
65	4.30 2.96E-02	0.	2.13E-01	8.26E-02	1.04E-01	0.	0.	7.92E-01	4.83E-03	3.40E-02	4.10E-02	1.30E 00
66	4.20 2.68E-02	0.	8.14E-01	8.59E-02	8.02E-02	0.	0.	7.98E-01	5.19E-03	3.52E-02	4.19E-02	1.89E 00
67	4.10 2.43E-02	0.	2.75E-01	8.04E-02	2.10E-02	0.	0.	8.01E-01	5.58E-03	3.65E-02	4.27E-02	1.29E 00
68	4.00 2.17E-02	0.	1.15E 00	7.52E-02	1.61E-02	0.	0.	8.05E-01	6.01E-03	3.78E-02	4.36E-02	2.12E 00
69	3.90 1.76E-02	0.	5.12E-01	6.56E-02	6.73E-03	0.	0.	8.01E-01	6.48E-03	3.28E-02	9.06E-03	1.46E 00
70	3.80 1.89E-02	0.	7.51E-01	6.56E-02	5.49E-02	0.	0.	7.98E-01	7.01E-03	3.36E-02	9.37E-03	1.74E 00
71	3.70 1.59E-02	0.	9.20E-01	5.49E-02	0.	0.	0.	7.86E-01	8.25E-03	2.61E-02	1.05E-02	1.84E 00
72	3.60 1.38E-02	0.	5.18E-01	5.97E-02	0.	0.	0.	7.36E-01	8.25E-03	2.82E-02	1.17E-02	1.47E 00
73	3.50 1.24E-02	0.	7.68E-01	4.38E-02	0.	0.	0.	6.74E-01	8.99E-03	2.83E-02	1.31E-02	1.79E 00
74	3.40 1.09E-02	0.	4.08E-01	4.86E-02	0.	0.	0.	3.89E-01	9.81E-03	3.18E-02	1.46E-02	9.33E-01
75	3.30 8.46E-03	0.	4.35E-01	3.65E-02	0.	0.	0.	3.89E-01	1.07E-02	3.54E-02	1.61E-02	1.04E 00
76	3.20 7.03E-03	0.	2.56E-01	3.73E-02	0.	0.	0.	3.90E-01	1.18E-02	3.90E-02	1.76E-02	1.01E 00
77	3.10 6.47E-03	0.	1.96E-01	3.37E-02	0.	0.	0.	3.91E-01	1.30E-02	4.27E-02	1.92E-02	7.36E-01
78	3.00 5.53E-03	0.	1.13E-01	3.02E-02	0.	0.	0.	3.92E-01	1.43E-02	4.64E-02	2.08E-02	7.31E-01
79	2.90 4.42E-03	0.	6.79E-02	2.14E-02	0.	0.	0.	3.92E-01	1.59E-02	5.02E-02	2.24E-02	6.43E-01
80	2.80 4.44E-03	0.	3.22E-02	1.34E-02	0.	0.	0.	3.93E-01	1.76E-02	5.44E-02	2.41E-02	5.68E-01
81	2.70 2.66E-03	0.	1.48E-02	6.65E-03	0.	0.	0.	3.93E-01	1.97E-02	5.88E-02	2.60E-02	5.75E-01
82	2.60 1.14E-03	0.	7.49E-03	2.68E-03	0.	0.	0.	3.93E-01	2.21E-02	6.36E-02	2.79E-02	5.23E-01
83	2.50 7.74E-04	0.	9.10E-04	6.05E-04	0.	0.	0.	3.93E-01	2.49E-02	7.17E-02	1.20E-02	5.07E-01
84	2.40 0.	5.01E-02	4.22E-03	6.19E-05	0.	0.	0.	3.93E-01	2.81E-02	8.29E-02	1.45E-02	5.73E-01
85	2.30 0.	2.03E-01	0.	0.	0.	0.	0.	3.90E-01	3.20E-02	5.81E-02	1.74E-02	7.00E-01
86	2.20 0.	4.56E-01	0.	0.	0.	0.	0.	3.88E-01	3.66E-02	6.86E-02	2.10E-02	9.71E-01
87	2.10 0.	5.90E-01	0.	0.	0.	0.	0.	3.87E-01	4.21E-02	7.99E-02	2.46E-02	1.12E 00
88	2.00 0.	1.03E 00	0.	0.	0.	0.	0.	3.74E-01	4.88E-02	9.12E-02	2.82E-02	1.57E 00
89	1.90 0.	1.76E 00	0.	0.	0.	0.	0.	3.60E-01	5.71E-02	1.03E-01	3.20E-02	2.31E 00
90	1.80 0.	1.44E 00	0.	0.	0.	0.	0.	3.44E-01	6.72E-02	1.22E-01	3.83E-02	2.01E 00
91	1.70 0.	1.73E 00	0.	0.	0.	0.	0.	3.24E-01	8.00E-02	1.45E-01	4.61E-02	2.32E 00
92	1.60 0.	1.22E 00	0.	0.	0.	0.	0.	2.74E-01	9.62E-02	1.68E-01	5.39E-02	1.81E 00
93	1.50 0.	1.48E 00	0.	0.	0.	0.	0.	1.25E-01	1.17E-01	2.11E-01	6.50E-02	2.00E 00
94	1.40 0.	1.53E 00	0.	0.	0.	0.	0.	0.	1.44E-01	2.57E-01	7.57E-02	2.01E 00
95	1.30 0.	1.15E 00	0.	0.	0.	0.	0.	0.	1.81E-01	3.21E-01	9.88E-02	1.75E 00
96	1.20 0.	1.14E 00	0.	0.	0.	0.	0.	0.	2.31E-01	3.12E-01	9.37E-02	1.77E 00
97	1.10 0.	9.80E-01	0.	0.	0.	6.18E-06	0.	0.	3.01E-01	3.85E-01	1.18E-01	1.78E 00
98	1.00 0.	9.04E-01	0.	0.	0.	6.28E-05	0.	0.	4.02E-01	4.64E-01	1.30E-01	1.90E 00
99	0.90 0.	7.37E-01	0.	0.	0.	7.47E-05	0.	0.	5.56E-01	5.26E-01	1.53E-01	1.97E 00
100	0.80 0.	3.45E-01	0.	0.	0.	1.38E-03	0.	0.	8.02E-01	6.04E-01	1.76E-01	1.93E 00
101	0.70 0.	8.81E-02	0.	0.	0.	9.96E-04	0.	0.	1.20E 00	6.67E-01	1.95E-01	2.15E 00
102	0.60 0.	7.55E-03	0.	0.	0.	3.84E-03	0.	0.	1.92E 00	7.44E-01	2.18E-01	2.89E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 11000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY E.V.	Q2 S-R BANDS	Q2 S-R CONT.	A.2 B-H NO. 1	TEMPERATURE (DEGREES K)	NU GAMMA	NO 2	PHOTO-DET (IONS)	N P.E.	FREE-FREE P.E.	U P.E.	TOTAL AIR
1	10.70 0.	0.	7.61E-01	0.	0.	0.	2.13E-02	2.56E-05	8.60E 00	2.69E-03	9.38E 00
2	10.60 0.	0.	6.63E-01	0.	0.	0.	2.13E-02	2.64E-05	1.26E-02	2.68E-03	6.99E-01
3	10.50 0.	0.	6.52E-01	0.	0.	0.	2.14E-02	2.71E-05	1.26E-02	2.68E-03	6.88E-01
4	10.40 0.	0.	5.93E-01	0.	0.	0.	2.14E-02	2.79E-05	1.27E-02	2.68E-03	6.30E-01
5	10.30 0.	0.	4.94E-01	0.	0.	0.	2.14E-02	2.88E-05	1.27E-02	2.67E-03	5.31E-01
6	10.20 0.	0.	4.96E-01	0.	0.	0.	2.15E-02	2.76E-05	1.28E-02	2.67E-03	5.32E-01
7	10.10 0.	0.	4.53E-01	0.	0.	0.	2.15E-02	3.05E-05	1.28E-02	2.67E-03	4.90E-01
8	10.00 0.	0.	3.75E-01	0.	0.	0.	2.15E-02	3.14E-05	1.28E-02	2.66E-03	4.12E-01
9	9.90 0.	0.	3.80E-01	0.	0.	0.	2.16E-02	3.24E-05	1.29E-02	2.66E-03	4.17E-01
10	9.80 0.	0.	3.42E-01	0.	0.	0.	2.16E-02	3.34E-05	1.29E-02	2.65E-03	3.79E-01
11	9.70 0.	0.	2.79E-01	0.	0.	0.	2.16E-02	3.45E-05	1.29E-02	2.65E-03	3.16E-01
12	9.60 0.	0.	3.00E-01	0.	0.	0.	2.17E-02	3.56E-05	1.30E-02	2.65E-03	3.37E-01
13	9.50 0.	0.	2.41E-01	0.	0.	0.	2.17E-02	3.67E-05	1.30E-02	2.64E-03	2.79E-01
14	9.40 0.	0.	2.19E-01	0.	0.	0.	2.18E-02	3.79E-05	1.30E-02	2.64E-03	2.56E-01
15	9.30 0.	0.	1.70E-01	0.	0.	0.	2.19E-02	3.91E-05	1.31E-02	2.63E-03	2.59E-01
16	9.20 0.	0.	1.74E-01	0.	0.	0.	2.20E-02	4.04E-05	1.31E-02	2.63E-03	2.08E-01
17	9.10 0.	0.	1.50E-01	0.	0.	0.	2.20E-02	4.18E-05	1.31E-02	2.63E-03	2.02E-01
18	9.00 0.	0.	1.33E-01	0.	0.	0.	2.21E-02	4.32E-05	1.31E-02	2.62E-03	1.79E-01
19	8.90 0.	0.	1.28E-01	0.	0.	0.	2.22E-02	4.47E-05	1.31E-02	2.62E-03	1.61E-01
20	8.80 0.	0.	1.04E-01	0.	0.	0.	2.23E-02	4.62E-05	1.31E-02	2.62E-03	1.56E-01
21	8.70 0.	0.	1.06E-01	0.	0.	0.	2.23E-02	4.78E-05	1.32E-03	2.61E-03	1.33E-01
22	8.60 0.	0.	8.70E-02	0.	0.	0.	2.24E-02	4.95E-05	1.32E-03	2.61E-03	1.34E-01
23	8.50 0.	0.	8.46E-02	0.	0.	0.	2.25E-02	5.13E-05	1.31E-03	2.61E-03	1.16E-01
24	8.40 0.	0.	6.76E-02	0.	0.	0.	2.26E-02	5.32E-05	1.31E-03	2.60E-03	1.14E-01
25	8.30 0.	0.	6.69E-02	0.	0.	0.	2.27E-02	5.51E-05	1.31E-03	2.61E-03	9.67E-02
26	8.20 0.	0.	5.46E-02	0.	0.	0.	2.29E-02	5.72E-05	1.31E-03	2.62E-03	9.62E-02
27	8.10 0.	0.	5.36E-02	0.	0.	0.	2.30E-02	5.94E-05	1.30E-03	2.64E-03	8.40E-02
28	8.00 0.	0.	4.37E-02	0.	0.	0.	2.31E-02	6.16E-05	1.30E-03	2.66E-03	8.31E-02
29	7.90 0.	0.	4.41E-02	0.	0.	0.	2.32E-02	6.40E-05	1.30E-03	2.68E-03	7.33E-02
30	7.80 0.	0.	3.67E-02	0.	0.	0.	2.33E-02	6.65E-05	1.30E-03	2.70E-03	7.39E-02
31	7.70 0.	0.	3.36E-02	0.	0.	0.	2.35E-02	6.91E-05	1.30E-03	2.72E-03	6.67E-02
32	7.60 0.	0.	2.96E-02	0.	1.99E-06	0.	2.36E-02	7.19E-05	1.31E-03	2.74E-03	6.37E-02
33	7.50 0.	0.	2.56E-02	0.	9.43E-06	0.	2.37E-02	7.48E-05	1.31E-03	2.76E-03	5.99E-02
34	7.40 0.	0.	2.33E-02	0.	5.30E-05	0.	2.38E-02	7.79E-05	1.31E-03	2.78E-03	5.61E-02
35	7.30 0.	0.	2.01E-02	0.	2.58E-04	0.	2.40E-02	8.12E-05	1.31E-03	2.80E-03	5.41E-02
36	7.20 0.	0.	1.86E-02	0.	6.87E-04	0.	2.41E-02	8.46E-05	1.32E-03	2.81E-03	5.15E-02
37	7.10 0.	0.	1.63E-02	0.	1.89E-03	0.	2.43E-02	8.82E-05	1.32E-03	2.83E-03	5.14E-02
38	7.00 5.0E-06	0.	1.43E-02	0.	4.83E-03	0.	2.45E-02	9.21E-05	1.32E-03	2.85E-03	5.23E-02
39	6.90 9.66E-06	0.	1.31E-02	0.	5.15E-03	0.	2.47E-02	9.61E-05	1.32E-03	2.87E-03	5.08E-02
40	6.80 1.1E-06	0.	1.10E-02	0.	1.06E-02	0.	2.49E-02	1.00E-04	1.33E-03	2.89E-03	5.53E-02
41	6.70 5.71E-06	0.	9.38E-03	0.	1.24E-02	0.	2.51E-02	1.05E-04	1.33E-03	2.91E-03	5.52E-02
42	6.60 3.39E-06	0.	7.05E-03	0.	7.86E-03	0.	2.53E-02	1.10E-04	1.34E-03	2.93E-03	4.93E-02
43	6.50 1.84E-06	0.	4.49E-03	0.	1.38E-02	0.	2.55E-02	1.15E-04	1.34E-03	2.96E-03	5.31E-02
44	6.40 1.04E-06	0.	2.56E-03	0.	1.53E-02	0.	2.57E-02	1.20E-04	1.34E-03	2.98E-03	5.24E-02
45	6.30 5.77E-07	0.	1.31E-03	0.	3.26E-04	0.	2.59E-02	1.26E-04	1.34E-03	3.01E-03	4.40E-02
46	6.20 2.51E-07	0.	5.71E-04	0.	4.40E-04	0.	2.61E-02	1.33E-04	1.34E-03	3.06E-03	4.74E-02
47	6.10 1.1E-07	0.	1.38E-04	0.	1.21E-03	0.	2.63E-02	1.39E-04	1.34E-03	3.10E-03	5.35E-02
48	6.00 4.4E-08	0.	9.83E-06	0.	1.06E-03	0.	2.65E-02	1.46E-04	1.34E-03	3.15E-03	4.22E-02
49	5.90 1.05E-08	0.	2.43E-07	0.	1.52E-03	0.	2.65E-02	1.54E-04	1.34E-03	3.20E-03	4.29E-02
50	5.80 1.33E-09	0.	0.	0.	2.06E-03	0.	2.61E-02	1.62E-04	1.34E-03	3.25E-03	4.28E-02
51	5.70 3.74E-11	0.	0.	0.	2.27E-03	0.	2.45E-02	1.71E-04	1.34E-03	3.29E-03	4.22E-02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 11000.										DENSITY (GM/CC) 1.293E-03 (1.0E-03 NORMAL)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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TEMPERATURE (DEGREES K) 11000. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R ENERGY BANDS		V2	1ST POS.	N2	N2+	BETA	NO	GAMMA	VIR-ROT	NO	NO	PHOTO-DET (IUNS)	FREE-FREE P.E.	N	P.E.	TOTAL AIR	
TEMPERATURE (DEGREES K) 11000.		DENSITY (GM/CC) 1.293E-04 (1.0E-01 NORMAL)															
52	5.60	4.31E-14	0.	0.	0.	2.02E-05	1.36E-04	0.	0.	0.	0.	7.17E-04	1.76E-05	4.62E-04	3.36E-04	1.69E-03	
53	5.50	0.	0.	0.	0.	2.47E-05	1.29E-04	0.	0.	0.	0.	7.21E-04	1.86E-05	4.69E-04	3.41E-04	1.70E-03	
54	5.40	0.	0.	0.	0.	2.14E-05	9.13E-05	0.	0.	0.	0.	7.29E-04	1.96E-05	4.78E-04	3.47E-04	1.68E-03	
55	5.30	0.	0.	0.	0.	2.19E-05	1.28E-04	0.	0.	0.	0.	7.29E-04	2.08E-05	4.87E-04	3.53E-04	1.74E-03	
56	5.20	0.	0.	0.	0.	2.30E-05	8.00E-05	0.	0.	0.	0.	7.34E-04	2.20E-05	4.97E-04	3.61E-04	1.72E-03	
57	5.10	0.	0.	0.	0.	2.25E-05	1.07E-04	0.	0.	0.	0.	7.40E-04	2.33E-05	5.10E-04	3.68E-04	1.77E-03	
58	5.00	5.4E-07	0.	0.	0.	2.00E-05	9.48E-05	0.	0.	0.	0.	7.46E-04	2.48E-05	5.24E-04	3.76E-04	1.79E-03	
59	4.90	1.24E-06	0.	0.	0.	2.16E-05	9.73E-05	0.	0.	0.	0.	7.53E-04	2.63E-05	5.39E-04	3.84E-04	1.82E-03	
60	4.80	2.21E-06	0.	0.	0.	2.29E-05	8.96E-05	0.	0.	0.	0.	7.59E-04	2.80E-05	5.55E-04	3.92E-04	1.85E-03	
61	4.70	2.82E-06	0.	0.	0.	2.20E-05	7.77E-05	0.	0.	0.	0.	7.65E-04	2.98E-05	5.71E-04	4.02E-04	1.87E-03	
62	4.60	3.64E-06	0.	0.	0.	2.21E-05	7.18E-05	0.	0.	0.	0.	7.71E-04	3.18E-05	5.90E-04	4.12E-04	1.90E-03	
63	4.50	3.73E-06	0.	8.90E-06	0.	1.94E-05	5.21E-05	0.	0.	0.	0.	7.78E-04	3.40E-05	6.13E-04	4.22E-04	1.93E-03	
64	4.40	3.81E-06	0.	3.07E-05	0.	1.90E-05	3.76E-05	0.	0.	0.	0.	7.84E-04	3.64E-05	6.37E-04	4.32E-04	1.98E-03	
65	4.30	3.45E-06	0.	8.08E-05	0.	1.74E-05	2.19E-05	0.	0.	0.	0.	7.90E-04	3.90E-05	6.62E-04	4.43E-04	2.06E-03	
66	4.20	3.13E-06	0.	3.09E-04	0.	1.81E-05	1.69E-05	0.	0.	0.	0.	7.96E-04	4.19E-05	6.87E-04	4.53E-04	2.33E-03	
67	4.10	2.84E-06	0.	1.05E-04	0.	1.69E-05	4.42E-06	0.	0.	0.	0.	7.99E-04	4.51E-05	7.12E-04	4.61E-04	2.15E-03	
68	4.00	2.53E-06	0.	4.37E-04	0.	1.58E-05	3.39E-06	0.	0.	0.	0.	8.02E-04	4.86E-05	7.37E-04	4.69E-04	2.14E-03	
69	3.90	2.05E-06	0.	1.94E-04	0.	1.38E-05	1.42E-06	0.	0.	0.	0.	7.96E-04	5.24E-05	7.63E-04	4.78E-04	1.84E-03	
70	3.80	2.21E-06	0.	2.85E-04	0.	1.38E-05	1.42E-06	0.	0.	0.	0.	7.96E-04	5.67E-05	7.90E-04	4.87E-04	2.13E-03	
71	3.70	1.85E-06	0.	3.50E-04	0.	1.16E-05	0.	0.	0.	0.	0.	7.84E-04	6.14E-05	8.17E-04	4.96E-04	1.89E-03	
72	3.60	1.62E-06	0.	1.97E-04	0.	1.26E-05	0.	0.	0.	0.	0.	7.34E-04	6.67E-05	8.46E-04	5.05E-04	2.06E-03	
73	3.50	1.45E-06	0.	2.92E-04	0.	9.22E-06	0.	0.	0.	0.	0.	6.72E-04	7.26E-05	8.75E-04	5.14E-04	2.75E-03	
74	3.40	1.27E-06	0.	1.55E-04	0.	1.02E-05	0.	0.	0.	0.	0.	6.72E-04	7.93E-05	9.04E-04	5.23E-04	1.57E-03	
75	3.30	9.88E-07	0.	1.65E-04	0.	7.68E-06	0.	0.	0.	0.	0.	3.88E-04	8.67E-05	9.33E-04	5.32E-04	1.97E-03	
76	3.20	8.21E-07	0.	9.74E-05	0.	7.86E-06	0.	0.	0.	0.	0.	3.89E-04	9.52E-05	9.62E-04	5.41E-04	2.59E-03	
77	3.10	7.55E-07	0.	7.46E-05	0.	7.10E-06	0.	0.	0.	0.	0.	3.90E-04	1.05E-04	9.91E-04	5.50E-04	2.16E-03	
78	3.00	6.45E-07	0.	4.20E-05	0.	6.37E-06	0.	0.	0.	0.	0.	3.91E-04	1.16E-04	1.02E-03	5.59E-04	2.14E-03	
79	2.90	5.16E-07	0.	2.58E-05	0.	4.50E-06	0.	0.	0.	0.	0.	3.91E-04	1.28E-04	1.09E-03	5.68E-04	2.05E-03	
80	2.80	5.19E-07	0.	1.22E-05	0.	2.82E-06	0.	0.	0.	0.	0.	3.92E-04	1.43E-04	1.16E-03	5.77E-04	1.94E-03	
81	2.70	4.11E-07	0.	5.62E-06	0.	1.40E-06	0.	0.	0.	0.	0.	3.92E-04	1.59E-04	1.23E-03	5.86E-04	2.20E-03	
82	2.60	1.34E-07	0.	2.85E-06	0.	5.65E-07	0.	0.	0.	0.	0.	3.92E-04	1.78E-04	1.30E-03	5.95E-04	2.14E-03	
83	2.50	9.03E-09	0.	3.46E-07	0.	1.27E-07	0.	0.	0.	0.	0.	3.92E-04	2.01E-04	1.40E-03	6.04E-04	2.14E-03	
84	2.40	0.	1.90E-05	0.	1.74E-05	1.30E-08	0.	0.	0.	0.	0.	3.92E-04	2.27E-04	1.62E-03	6.13E-04	2.43E-03	
85	2.30	0.	7.70E-05	0.	0.	0.	0.	0.	0.	0.	0.	3.89E-04	2.59E-04	1.83E-03	6.22E-04	2.04E-03	
86	2.20	0.	1.73E-04	0.	0.	0.	0.	0.	0.	0.	0.	3.87E-04	2.96E-04	2.04E-03	6.31E-04	2.42E-03	
87	2.10	0.	2.24E-04	0.	0.	0.	0.	0.	0.	0.	0.	3.86E-04	3.41E-04	2.25E-03	6.40E-04	2.77E-03	
88	2.00	0.	3.90E-04	0.	0.	0.	0.	0.	0.	0.	0.	3.73E-04	3.95E-04	2.46E-03	6.49E-04	3.24E-03	
89	1.90	0.	6.69E-04	0.	0.	0.	0.	0.	0.	0.	0.	3.59E-04	4.61E-04	2.67E-03	6.58E-04	3.85E-03	
90	1.80	0.	5.45E-04	0.	0.	0.	0.	0.	0.	0.	0.	3.43E-04	5.43E-04	2.88E-03	6.67E-04	4.23E-03	
91	1.70	0.	4.64E-04	0.	0.	0.	0.	0.	0.	0.	0.	3.23E-04	6.47E-04	3.09E-03	6.76E-04	4.95E-03	
92	1.60	0.	4.64E-04	0.	0.	0.	0.	0.	0.	0.	0.	2.74E-04	7.78E-04	3.28E-03	6.85E-04	5.38E-03	
93	1.50	0.	5.64E-04	0.	0.	0.	0.	0.	0.	0.	0.	1.24E-04	9.46E-04	3.47E-03	6.94E-04	6.45E-03	
94	1.40	0.	5.82E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.17E-03	5.02E-03	7.02E-03	7.02E-03	7.58E-03
95	1.30	0.	4.37E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-03	6.25E-03	8.18E-03	7.11E-03	9.22E-03
96	1.20	0.	4.32E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-03	7.50E-03	9.39E-03	7.20E-03	9.39E-03
97	1.10	0.	3.72E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-03	8.75E-03	1.01E-02	7.29E-03	1.16E-02
98	1.00	0.	3.44E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.24E-03	9.05E-03	1.41E-02	7.38E-03	1.40E-02
99	0.90	0.	2.80E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.50E-03	1.02E-02	1.66E-02	7.47E-03	1.67E-02
100	0.80	0.	1.31E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.48E-03	1.18E-02	1.91E-02	7.56E-03	2.03E-02
101	0.70	0.	3.35E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.72E-03	1.30E-02	2.10E-02	7.65E-03	2.48E-02
102	0.60	0.	2.87E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-02	1.45E-02	2.35E-02	7.74E-03	3.24E-02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1100L.	DENSITY (GM/CC)		1.293E-05 (10.0E-03 NORMAL)		FREE-FREE		PHOTO-DET (IONS)		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	U2 S-R BANDS	U2 S-R CONT.	U2 R-H N(1.1	NO BETA	NO GAMMA	NO	2	0-	PHOTO-DET (IONS)	FREE-FREE	N	P.E.	0	P.E.		
1 10.70	0.	0.	9.24E-05	0.	0.	0.	0.	2.02E-05	2.39E-07	1.38E-04	2.63E-05	2.63E-05	2.77E-04			
2 10.60	0.	0.	8.04E-05	0.	0.	0.	0.	2.02E-05	2.46E-07	1.39E-04	2.63E-05	2.63E-05	2.66E-04			
3 10.50	0.	0.	7.91E-05	0.	0.	0.	0.	2.03E-05	2.53E-07	1.39E-04	2.62E-05	2.62E-05	2.65E-04			
4 10.40	0.	0.	7.20E-05	0.	0.	0.	0.	2.03E-05	2.61E-07	1.40E-04	2.62E-05	2.62E-05	2.59E-04			
5 10.30	0.	0.	6.07E-05	0.	0.	0.	0.	2.03E-05	2.68E-07	1.40E-04	2.62E-05	2.62E-05	2.47E-04			
6 10.20	0.	0.	6.01E-05	0.	0.	0.	0.	2.03E-05	2.76E-07	1.41E-04	2.61E-05	2.61E-05	2.47E-04			
7 10.10	0.	0.	5.50E-05	0.	0.	0.	0.	2.04E-05	2.85E-07	1.41E-04	2.61E-05	2.61E-05	2.43E-04			
8 10.00	0.	0.	4.55E-05	0.	0.	0.	0.	2.04E-05	2.93E-07	1.42E-04	2.60E-05	2.60E-05	2.34E-04			
9 9.90	0.	0.	4.61E-05	0.	0.	0.	0.	2.05E-05	3.02E-07	1.42E-04	2.60E-05	2.60E-05	2.34E-04			
10 9.80	0.	0.	4.15E-05	0.	0.	0.	0.	2.05E-05	3.12E-07	1.42E-04	2.60E-05	2.60E-05	2.30E-04			
11 9.70	0.	0.	3.39E-05	0.	0.	0.	0.	2.05E-05	3.22E-07	1.42E-04	2.59E-05	2.59E-05	2.23E-04			
12 9.60	0.	0.	3.64E-05	0.	0.	0.	0.	2.06E-05	3.32E-07	1.43E-04	2.59E-05	2.59E-05	2.26E-04			
13 9.50	0.	0.	2.93E-05	0.	0.	0.	0.	2.06E-05	3.42E-07	1.43E-04	2.59E-05	2.59E-05	2.19E-04			
14 9.40	0.	0.	2.65E-05	0.	0.	0.	0.	2.07E-05	3.53E-07	1.43E-04	2.58E-05	2.58E-05	2.17E-04			
15 9.30	0.	0.	2.68E-05	0.	0.	0.	0.	2.07E-05	3.65E-07	1.44E-04	2.58E-05	2.58E-05	2.18E-04			
16 9.20	0.	0.	2.06E-05	0.	0.	0.	0.	2.08E-05	3.77E-07	1.43E-05	2.57E-05	2.57E-05	1.09E-04			
17 9.10	0.	0.	2.11E-05	0.	0.	0.	0.	2.09E-05	3.90E-07	1.43E-05	2.57E-05	2.57E-05	1.09E-04			
18 9.00	0.	0.	1.82E-05	0.	0.	0.	0.	2.10E-05	4.03E-07	1.42E-05	2.57E-05	2.57E-05	1.06E-04			
19 8.90	0.	0.	1.61E-05	0.	0.	0.	0.	2.10E-05	4.17E-07	1.41E-05	2.56E-05	2.56E-05	1.04E-04			
20 8.80	0.	0.	1.55E-05	0.	0.	0.	0.	2.11E-05	4.31E-07	1.41E-05	2.56E-05	2.56E-05	1.04E-04			
21 8.70	0.	0.	1.26E-05	0.	0.	0.	0.	2.12E-05	4.46E-07	1.40E-05	2.55E-05	2.55E-05	1.01E-04			
22 8.60	0.	0.	1.24E-05	0.	0.	0.	0.	2.13E-05	4.62E-07	1.40E-05	2.55E-05	2.55E-05	1.01E-04			
23 8.50	0.	0.	1.06E-05	0.	0.	0.	0.	2.13E-05	4.79E-07	1.40E-05	2.55E-05	2.55E-05	9.88E-05			
24 8.40	0.	0.	1.03E-05	0.	0.	0.	0.	2.14E-05	4.96E-07	1.40E-05	2.55E-05	2.55E-05	9.86E-05			
25 8.30	0.	0.	8.20E-06	0.	0.	0.	0.	2.16E-05	5.14E-07	1.40E-05	2.55E-05	2.55E-05	9.66E-05			
26 8.20	0.	0.	8.12E-06	0.	0.	0.	0.	2.17E-05	5.34E-07	1.40E-05	2.57E-05	2.57E-05	9.69E-05			
27 8.10	0.	0.	6.62E-06	0.	0.	0.	0.	2.18E-05	5.54E-07	1.40E-05	2.57E-05	2.57E-05	9.56E-05			
28 8.00	0.	0.	6.50E-06	0.	0.	0.	0.	2.19E-05	5.75E-07	1.40E-05	2.61E-05	2.61E-05	9.58E-05			
29 7.90	0.	0.	5.30E-06	0.	0.	0.	0.	2.20E-05	5.97E-07	1.40E-05	2.62E-05	2.62E-05	9.49E-05			
30 7.80	0.	0.	5.35E-06	0.	0.	0.	0.	2.21E-05	6.20E-07	1.40E-05	2.64E-05	2.64E-05	9.53E-05			
31 7.70	0.	0.	4.45E-06	0.	0.	0.	0.	2.22E-05	6.45E-07	1.40E-05	2.66E-05	2.66E-05	9.47E-05			
32 7.60	0.	0.	4.08E-06	0.	0.	0.	0.	2.23E-05	6.71E-07	1.40E-05	2.68E-05	2.68E-05	9.47E-05			
33 7.50	0.	0.	3.60E-06	0.	0.	0.	0.	2.25E-05	6.98E-07	1.40E-05	2.70E-05	2.70E-05	9.46E-05			
34 7.40	0.	0.	3.11E-06	0.	0.	0.	0.	2.26E-05	7.27E-07	1.40E-05	2.72E-05	2.72E-05	9.45E-05			
35 7.30	0.	0.	2.82E-06	0.	0.	0.	0.	2.27E-05	7.57E-07	1.40E-05	2.74E-05	2.74E-05	9.46E-05			
36 7.20	0.	0.	2.44E-06	0.	0.	0.	0.	2.28E-05	7.89E-07	1.40E-05	2.75E-05	2.75E-05	9.46E-05			
37 7.10	0.	0.	2.25E-06	0.	0.	0.	0.	2.30E-05	8.23E-07	1.40E-05	2.77E-05	2.77E-05	9.50E-05			
38 7.00	4.87E-10	0.	1.98E-06	0.	0.	0.	0.	2.32E-05	8.59E-07	1.40E-05	2.79E-05	2.79E-05	9.55E-05			
39 6.90	9.26E-10	0.	1.74E-06	0.	0.	0.	0.	2.34E-05	8.97E-07	1.40E-05	2.81E-05	2.81E-05	9.57E-05			
40 6.80	7.75E-10	0.	1.59E-06	0.	0.	0.	0.	2.36E-05	9.37E-07	1.41E-05	2.83E-05	2.83E-05	9.66E-05			
41 6.70	5.47E-10	0.	1.33E-06	0.	0.	0.	0.	2.38E-05	9.80E-07	1.41E-05	2.85E-05	2.85E-05	9.70E-05			
42 6.60	3.24E-10	0.	1.14E-06	0.	0.	0.	0.	2.40E-05	1.02E-06	1.42E-05	2.87E-05	2.87E-05	9.69E-05			
43 6.50	1.81E-10	0.	8.55E-07	0.	0.	0.	0.	2.41E-05	1.07E-06	1.45E-05	2.89E-05	2.89E-05	9.80E-05			
44 6.40	9.93E-11	0.	5.45E-07	7.92E-09	1.65E-06	0.	0.	2.43E-05	1.12E-06	1.47E-05	2.92E-05	2.92E-05	9.85E-05			
45 6.30	5.53E-11	0.	3.11E-07	3.52E-08	8.98E-07	0.	0.	2.45E-05	1.18E-06	1.49E-05	2.95E-05	2.95E-05	9.83E-05			
46 6.20	2.4E-11	0.	1.59E-07	4.74E-08	1.35E-06	0.	0.	2.47E-05	1.24E-06	1.51E-05	2.99E-05	2.99E-05	9.96E-05			
47 6.10	1.05E-11	0.	6.92E-09	1.31E-07	1.98E-06	0.	0.	2.49E-05	1.30E-06	1.55E-05	3.04E-05	3.04E-05	1.01E-04			
48 6.00	4.27E-12	0.	1.67E-08	1.15E-07	7.89E-07	0.	0.	2.51E-05	1.37E-06	1.58E-05	3.08E-05	3.08E-05	1.01E-04			
49 5.90	1.01E-12	0.	1.19E-09	1.63E-07	8.20E-07	0.	0.	2.51E-05	1.44E-06	1.58E-05	3.13E-05	3.13E-05	1.02E-04			
50 5.80	1.27E-13	0.	2.95E-11	2.22E-07	7.91E-07	0.	0.	2.47E-05	1.51E-06	1.59E-05	3.18E-05	3.18E-05	1.03E-04			
51 5.70	9.34E-15	0.	0.	2.45E-07	8.56E-07	0.	0.	2.32E-05	1.59E-06	1.59E-05	3.22E-05	3.22E-05	1.02E-04			

## ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1100C. DENSITY (GM/CC) 1.293E-05 (10.0E-C3 NORMAL)													
PHOTON U2 S-R ENERGY BANDS		N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	PHOTO-DET (IONS)	FREE-FREE	N P.E.	O P.E.	TOTAL AIR
52	5.60 4.1E-16	0.	0.	0.	1.91E-07	1.29E-06	0.	0.	2.16E-05	1.68E-06	4.49E-05	3.27E-05	1.02E-04
53	5.50 0.	0.	0.	0.	2.33E-07	1.22E-06	0.	0.	2.17E-05	1.78E-06	4.56E-05	3.32E-05	1.04E-04
54	5.40 0.	0.	0.	0.	2.02E-07	8.63E-07	0.	0.	2.18E-05	1.88E-06	4.64E-05	3.37E-05	1.05E-04
55	5.30 0.	0.	0.	0.	2.07E-07	1.21E-06	0.	0.	2.19E-05	1.99E-06	4.73E-05	3.43E-05	1.07E-04
56	5.20 0.	0.	0.	0.	2.17E-07	7.56E-07	0.	0.	2.21E-05	2.10E-06	4.82E-05	3.51E-05	1.08E-04
57	5.10 0.	0.	0.	0.	2.12E-07	1.02E-06	0.	0.	2.23E-05	2.23E-06	4.95E-05	3.58E-05	1.11E-04
58	5.00 5.11E-09	0.	0.	0.	1.89E-07	8.95E-07	0.	0.	2.25E-05	2.37E-06	5.09E-05	3.66E-05	1.13E-04
59	4.90 1.1E-08	0.	0.	0.	2.04E-07	9.19E-07	0.	0.	2.26E-05	2.52E-06	5.24E-05	3.74E-05	1.16E-04
60	4.80 2.09E-08	0.	0.	0.	2.16E-07	8.44E-07	0.	0.	2.28E-05	2.68E-06	5.39E-05	3.82E-05	1.19E-04
61	4.70 2.67E-08	0.	0.	0.	2.08E-07	7.34E-07	0.	0.	2.30E-05	2.85E-06	5.54E-05	3.91E-05	1.21E-04
62	4.60 3.44E-08	0.	0.	0.	2.09E-07	6.78E-07	0.	0.	2.32E-05	3.04E-06	5.73E-05	4.01E-05	1.25E-04
63	4.50 3.53E-08	0.	8.39E-08	0.	1.83E-07	4.92E-07	0.	0.	2.34E-05	3.25E-06	5.96E-05	4.11E-05	1.28E-04
64	4.40 3.6E-08	0.	2.90E-07	0.	1.80E-07	3.55E-07	0.	0.	2.36E-05	3.48E-06	6.19E-05	4.21E-05	1.32E-04
65	4.30 3.27E-08	0.	7.92E-07	0.	1.64E-07	2.07E-07	0.	0.	2.38E-05	3.73E-06	6.43E-05	4.31E-05	1.36E-04
66	4.20 2.9E-08	0.	2.92E-06	0.	1.71E-07	1.60E-07	0.	0.	2.40E-05	4.01E-06	6.67E-05	4.39E-05	1.42E-04
67	4.10 2.6E-08	0.	9.86E-07	0.	1.60E-07	4.18E-08	0.	0.	2.40E-05	4.31E-06	6.91E-05	4.24E-05	1.41E-04
68	4.00 2.39E-08	0.	4.12E-06	0.	1.50E-07	3.20E-08	0.	0.	2.41E-05	4.64E-06	7.16E-05	9.26E-06	1.14E-04
69	3.90 1.94E-08	0.	1.83E-06	0.	1.38E-07	1.34E-08	0.	0.	2.40E-05	5.01E-06	7.48E-05	9.53E-06	1.03E-04
70	3.80 2.04E-08	0.	2.69E-06	0.	1.30E-07	0.	0.	0.	2.40E-05	5.42E-06	7.78E-05	9.85E-06	9.66E-05
71	3.70 1.75E-08	0.	3.30E-06	1.09E-06	1.09E-06	1.09E-06	0.	0.	2.36E-05	5.87E-06	8.08E-05	1.10E-05	9.51E-05
72	3.60 1.53E-08	0.	1.86E-06	1.12E-05	1.19E-07	0.	0.	0.	2.21E-05	6.38E-06	8.77E-05	1.23E-05	1.02E-04
73	3.50 1.37E-08	0.	2.75E-06	3.07E-05	8.71E-08	0.	0.	0.	2.02E-05	6.94E-06	9.36E-05	1.37E-05	1.28E-04
74	3.40 1.2E-08	0.	1.46E-06	2.71E-06	9.66E-08	0.	0.	0.	1.17E-05	7.58E-06	1.03E-05	1.53E-05	9.91E-05
75	3.30 9.34E-09	0.	1.56E-06	1.39E-05	7.25E-08	0.	0.	0.	1.17E-05	8.29E-06	1.09E-05	1.69E-05	1.19E-04
76	3.20 7.77E-09	0.	9.18E-07	3.19E-05	7.43E-08	0.	0.	0.	1.17E-05	9.10E-06	1.18E-05	1.85E-05	1.46E-04
77	3.10 7.14E-09	0.	7.01E-07	4.24E-06	6.71E-08	0.	0.	0.	1.17E-05	1.00E-05	1.23E-05	2.02E-05	1.28E-04
78	3.00 6.11E-09	0.	4.05E-07	1.37E-05	6.02E-08	0.	0.	0.	1.18E-05	1.11E-05	1.31E-05	2.18E-05	1.47E-04
79	2.90 4.88E-09	0.	2.43E-07	8.58E-06	4.25E-08	0.	0.	0.	1.18E-05	1.23E-05	1.43E-05	2.35E-05	1.51E-04
80	2.80 4.91E-09	0.	1.15E-07	3.65E-06	2.67E-08	0.	0.	0.	1.18E-05	1.36E-05	1.53E-05	2.54E-05	1.57E-04
81	2.70 2.94E-09	0.	5.30E-08	6.65E-06	1.32E-08	0.	0.	0.	1.18E-05	1.52E-05	1.64E-05	2.73E-05	1.72E-04
82	2.60 1.26E-09	0.	2.68E-08	6.22E-07	5.34E-09	0.	0.	0.	1.18E-05	1.71E-05	1.80E-05	2.96E-05	1.94E-04
83	2.50 8.54E-11	0.	3.26E-09	5.13E-07	1.20E-09	0.	0.	0.	1.18E-05	1.92E-05	2.00E-05	3.21E-05	2.18E-04
84	2.40 0.	1.80E-07	0.	5.30E-07	1.23E-10	0.	0.	0.	1.18E-05	2.17E-05	2.18E-05	3.50E-05	2.45E-04
85	2.30 0.	7.26E-07	0.	0.	0.	0.	0.	0.	1.17E-05	2.47E-05	2.31E-05	3.79E-05	2.69E-04
86	2.20 0.	1.63E-06	0.	0.	0.	0.	0.	0.	1.16E-05	2.83E-05	2.59E-05	4.08E-05	2.98E-04
87	2.10 0.	2.11E-06	0.	0.	0.	0.	0.	0.	1.16E-05	3.26E-05	2.96E-05	4.37E-05	3.27E-04
88	2.00 0.	3.67E-06	0.	0.	0.	0.	0.	0.	1.12E-05	3.77E-05	3.41E-05	4.66E-05	3.56E-04
89	1.90 0.	6.31E-06	0.	0.	0.	0.	0.	0.	1.08E-05	4.41E-05	4.06E-05	5.00E-05	4.25E-04
90	1.80 0.	5.14E-06	0.	0.	0.	0.	0.	0.	1.03E-05	5.20E-05	4.81E-05	5.94E-05	5.04E-04
91	1.70 0.	6.19E-06	0.	0.	0.	0.	0.	0.	9.73E-06	6.10E-05	5.62E-05	6.83E-05	5.83E-04
92	1.60 0.	4.38E-06	0.	0.	0.	0.	0.	0.	8.24E-06	7.44E-05	6.74E-05	8.06E-05	7.26E-04
93	1.50 0.	5.32E-06	0.	0.	0.	0.	0.	0.	3.74E-06	9.05E-05	8.25E-05	9.46E-05	8.56E-04
94	1.40 0.	5.49E-06	0.	0.	0.	0.	0.	0.	0.	1.11E-04	1.00E-04	1.11E-04	1.22E-04
95	1.30 0.	4.12E-06	0.	0.	0.	0.	0.	0.	0.	1.40E-04	1.27E-04	1.40E-04	1.51E-04
96	1.20 0.	4.07E-06	0.	0.	0.	0.	0.	0.	0.	1.78E-04	1.64E-04	1.78E-04	1.90E-04
97	1.10 0.	3.51E-06	0.	0.	0.	0.	1.23E-11	0.	0.	2.32E-04	2.12E-04	2.32E-04	2.44E-04
98	1.00 0.	3.24E-06	0.	0.	0.	0.	1.25E-10	0.	0.	3.10E-04	2.80E-04	3.10E-04	3.22E-04
99	0.90 0.	2.64E-06	0.	0.	0.	0.	1.49E-10	0.	0.	4.30E-04	3.90E-04	4.30E-04	4.42E-04
100	0.80 0.	1.24E-06	0.	0.	0.	0.	2.75E-09	0.	0.	6.19E-04	5.62E-04	6.19E-04	6.31E-04
101	0.70 0.	3.16E-07	0.	0.	0.	0.	1.98E-09	0.	0.	9.29E-04	8.40E-04	9.29E-04	9.41E-04
102	0.60 0.	2.70E-08	0.	0.	0.	0.	7.63E-09	0.	0.	1.48E-03	1.33E-03	1.48E-03	1.50E-03



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1100C.	DENSITY (GM/CC)		1.293E-06	(10.0E-04 NORMAL)		FREE-FREE		N	P.E.		TOTAL AIR	
PHOTO: O2 S-R		CONT.	O2 S-R		NO	PHOTO-DET (IONS)		NO	2	P.E.	P.E.	P.E.	P.E.	P.E.
PHOTO: O2 S-R	PHOTO: O2 S-R		PHOTO: O2 S-R	PHOTO: O2 S-R		PHOTO: O2 S-R	PHOTO: O2 S-R							
ENERGY E.V.	ENERGY E.V.	NO. 1	ENERGY E.V.	ENERGY E.V.	NO. 2	ENERGY E.V.	ENERGY E.V.	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9
1 10.70 0.	1 10.70 0.	6.91E-07	6.91E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.	2 10.60 0.	6.01E-07	6.01E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.	3 10.50 0.	5.91E-07	5.91E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.	4 10.40 0.	5.38E-07	5.38E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.	5 10.30 0.	4.49E-07	4.49E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.	6 10.20 0.	4.50E-07	4.50E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.	7 10.10 0.	4.11E-07	4.11E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.	8 10.00 0.	3.40E-07	3.40E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	9 9.90 0.	3.45E-07	3.45E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	10 9.80 0.	3.10E-07	3.10E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	11 9.70 0.	2.53E-07	2.53E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	12 9.60 0.	2.72E-07	2.72E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	13 9.50 0.	2.19E-07	2.19E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	14 9.40 0.	1.98E-07	1.98E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	15 9.30 0.	2.01E-07	2.01E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	16 9.20 0.	1.54E-07	1.54E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	17 9.10 0.	1.58E-07	1.58E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	18 9.00 0.	1.36E-07	1.36E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	19 8.90 0.	1.20E-07	1.20E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	20 8.80 0.	1.16E-07	1.16E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	21 8.70 0.	9.44E-08	9.44E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	22 8.60 0.	9.59E-08	9.59E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	23 8.50 0.	7.89E-08	7.89E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	24 8.40 0.	7.67E-08	7.67E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	25 8.30 0.	6.14E-08	6.14E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	26 8.20 0.	6.07E-08	6.07E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	27 8.10 0.	4.95E-08	4.95E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	28 8.00 0.	4.86E-08	4.86E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	29 7.90 0.	3.96E-08	3.96E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	30 7.80 0.	4.00E-08	4.00E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	31 7.70 0.	3.33E-08	3.33E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.	32 7.60 0.	3.05E-08	3.05E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	33 7.50 0.	2.69E-08	2.69E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	34 7.40 0.	2.32E-08	2.32E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	35 7.30 0.	2.11E-08	2.11E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	36 7.20 0.	1.82E-08	1.82E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	37 7.10 0.	1.68E-08	1.68E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.	38 7.00 0.	1.48E-08	1.48E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.	39 6.90 0.	1.30E-08	1.30E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.	40 6.80 0.	1.19E-08	1.19E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.	41 6.70 0.	9.96E-09	9.96E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.	42 6.60 0.	8.51E-09	8.51E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.	43 6.50 0.	6.39E-09	6.39E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.	44 6.40 0.	4.07E-09	4.07E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.	45 6.30 0.	2.32E-09	2.32E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.	46 6.20 0.	1.19E-09	1.19E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.	47 6.10 0.	5.18E-10	5.18E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.	48 6.00 0.	1.25E-10	1.25E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.	49 5.90 0.	8.32E-11	8.32E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.	50 5.80 0.	2.21E-11	2.21E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.	51 5.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.





ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		11000.		1.293E-07		(1.0.E-05 NORMAL)		TOTAL AIR	
ENERGY	RANDS	1ST POS.	2ND POS.	N2	N2+	NO	NO	NO	NO	NO	NO	NO	NO
						RETA	GAMMA	VIB-ROT	2	PHOTO-DET	FREE-FREE	N	P.E.
52	5.60	1.8.E-20	0.	0.	0.	6.92E-12	4.67E-11	0.	0.	1.07E-08	9.53E-09	2.48E-07	2.15E-07
53	5.50	0.	0.	0.	0.	8.47E-12	4.44E-11	0.	0.	1.07E-08	1.01E-08	2.52E-07	2.18E-07
54	5.40	0.	0.	0.	0.	7.32E-12	3.13E-11	0.	0.	1.08E-08	1.06E-08	2.56E-07	2.22E-07
55	5.30	0.	0.	0.	0.	7.52E-12	4.40E-11	0.	0.	1.09E-08	1.12E-08	2.61E-07	2.26E-07
56	5.20	0.	0.	0.	0.	7.87E-12	2.74E-11	0.	0.	1.09E-08	1.19E-08	2.66E-07	2.31E-07
57	5.10	0.	0.	0.	0.	7.71E-12	3.68E-11	0.	0.	1.10E-08	1.26E-08	2.73E-07	2.36E-07
58	5.00	2.21E-13	0.	0.	0.	6.85E-12	3.25E-11	0.	0.	1.11E-08	1.34E-08	2.81E-07	2.41E-07
59	4.90	5.09E-13	0.	0.	0.	7.42E-12	3.33E-11	0.	0.	1.12E-08	1.42E-08	2.89E-07	2.46E-07
60	4.80	9.03E-13	0.	0.	0.	7.83E-12	3.07E-11	0.	0.	1.13E-08	1.52E-08	2.98E-07	2.51E-07
61	4.70	1.15E-12	0.	0.	0.	7.54E-12	2.66E-11	0.	0.	1.14E-08	1.62E-08	3.06E-07	2.57E-07
62	4.60	1.51E-12	0.	0.	0.	7.57E-12	2.46E-11	0.	0.	1.15E-08	1.72E-08	3.16E-07	2.64E-07
63	4.50	1.52E-12	0.	0.	0.	6.63E-12	1.79E-11	0.	0.	1.16E-08	1.84E-08	3.29E-07	2.70E-07
64	4.40	1.56E-12	0.	0.	0.	6.51E-12	1.29E-11	0.	0.	1.17E-08	1.97E-08	3.42E-07	2.77E-07
65	4.30	1.41E-12	0.	0.	0.	5.96E-12	7.52E-12	0.	0.	1.18E-08	2.11E-08	3.55E-07	2.82E-07
66	4.20	1.28E-12	0.	0.	0.	6.20E-12	5.79E-12	0.	0.	1.19E-08	2.27E-08	3.68E-07	2.93E-07
67	4.10	1.16E-12	0.	0.	0.	5.81E-12	1.52E-12	0.	0.	1.19E-08	2.44E-08	3.82E-07	3.01E-07
68	4.00	1.03E-12	0.	0.	0.	5.43E-12	1.16E-12	0.	0.	1.19E-08	2.63E-08	4.00E-07	3.11E-07
69	3.90	8.40E-13	0.	0.	0.	4.73E-12	4.86E-13	0.	0.	1.19E-08	2.84E-08	4.25E-07	3.23E-07
70	3.80	9.04E-13	0.	0.	0.	5.02E-12	0.	0.	0.	1.19E-08	3.07E-08	4.54E-07	3.37E-07
71	3.70	7.57E-13	0.	0.	0.	4.73E-12	0.	0.	0.	1.17E-08	3.33E-08	4.80E-07	3.53E-07
72	3.60	6.61E-13	0.	0.	0.	4.31E-12	0.	0.	0.	1.09E-08	3.61E-08	5.06E-07	3.69E-07
73	3.50	5.94E-13	0.	0.	0.	3.16E-12	0.	0.	0.	1.00E-08	3.93E-08	5.24E-07	3.85E-07
74	3.40	5.18E-13	0.	0.	0.	4.45E-11	1.10E-09	0.	0.	5.77E-09	4.29E-08	5.42E-07	4.01E-07
75	3.30	4.04E-13	0.	0.	0.	4.75E-11	5.61E-09	0.	0.	5.78E-09	4.70E-08	5.70E-07	4.17E-07
76	3.20	3.36E-13	0.	0.	0.	2.80E-11	1.29E-08	0.	0.	5.79E-09	5.15E-08	6.08E-07	4.33E-07
77	3.10	3.09E-13	0.	0.	0.	2.14E-11	1.72E-09	0.	0.	5.80E-09	5.67E-08	6.46E-07	4.49E-07
78	3.00	2.64E-13	0.	0.	0.	1.23E-11	5.55E-09	0.	0.	5.82E-09	6.27E-08	6.85E-07	4.65E-07
79	2.90	2.11E-13	0.	0.	0.	7.41E-12	3.47E-09	0.	0.	5.83E-09	6.95E-08	7.24E-07	4.81E-07
80	2.80	2.12E-13	0.	0.	0.	3.51E-12	1.68E-09	0.	0.	5.84E-09	7.72E-08	7.68E-07	4.97E-07
81	2.70	1.27E-13	0.	0.	0.	1.61E-12	2.69E-09	0.	0.	5.84E-09	8.62E-08	8.15E-07	5.13E-07
82	2.60	5.47E-14	0.	0.	0.	8.18E-13	2.52E-10	0.	0.	5.84E-09	9.67E-08	8.64E-07	5.29E-07
83	2.50	3.69E-15	0.	0.	0.	9.93E-14	2.08E-10	0.	0.	5.84E-09	1.09E-07	9.03E-07	5.45E-07
84	2.40	0.	0.	0.	0.	5.47E-12	0.	0.	0.	5.84E-09	1.23E-07	9.41E-07	5.61E-07
85	2.30	0.	0.	0.	0.	2.21E-11	0.	0.	0.	5.79E-09	1.40E-07	9.79E-07	5.77E-07
86	2.20	0.	0.	0.	0.	4.98E-11	0.	0.	0.	5.77E-09	1.60E-07	1.01E-07	5.93E-07
87	2.10	0.	0.	0.	0.	6.44E-11	0.	0.	0.	5.74E-09	1.84E-07	1.03E-07	6.09E-07
88	2.00	0.	0.	0.	0.	1.12E-10	0.	0.	0.	5.56E-09	2.14E-07	1.05E-07	6.25E-07
89	1.90	0.	0.	0.	0.	1.92E-10	0.	0.	0.	5.35E-09	2.50E-07	1.08E-07	6.41E-07
90	1.80	0.	0.	0.	0.	1.57E-10	0.	0.	0.	5.11E-09	2.94E-07	1.28E-07	6.57E-07
91	1.70	0.	0.	0.	0.	1.89E-10	0.	0.	0.	4.82E-09	3.50E-07	1.52E-07	6.73E-07
92	1.60	0.	0.	0.	0.	1.33E-10	0.	0.	0.	4.08E-09	4.21E-07	1.76E-07	6.89E-07
93	1.50	0.	0.	0.	0.	1.62E-10	0.	0.	0.	1.85E-09	5.12E-07	2.04E-07	7.05E-07
94	1.40	0.	0.	0.	0.	1.67E-10	0.	0.	0.	0.	6.32E-07	2.36E-07	7.21E-07
95	1.30	0.	0.	0.	0.	1.26E-10	0.	0.	0.	0.	7.92E-07	2.81E-07	7.37E-07
96	1.20	0.	0.	0.	0.	1.24E-10	0.	0.	0.	0.	1.01E-06	3.19E-07	7.53E-07
97	1.10	0.	0.	0.	0.	1.07E-10	0.	0.	0.	0.	1.32E-06	3.68E-07	7.69E-07
98	1.00	0.	0.	0.	0.	9.87E-11	0.	0.	0.	0.	1.76E-06	4.28E-07	7.85E-07
99	0.90	0.	0.	0.	0.	8.04E-11	0.	0.	0.	0.	2.44E-06	5.09E-07	8.01E-07
100	0.80	0.	0.	0.	0.	3.77E-11	0.	0.	0.	0.	3.51E-06	6.16E-07	8.17E-07
101	0.70	0.	0.	0.	0.	9.62E-12	0.	0.	0.	0.	5.26E-06	7.47E-07	8.33E-07
102	0.60	0.	0.	0.	0.	8.24E-13	0.	0.	0.	0.	8.40E-06	8.95E-07	8.49E-07

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 11000.		DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	NO. 1	NO. 2	PHOTO-DET (ICNS)	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2
1 10.70 0.	2.70E-12	0.	0.	0.	0.	6.62E-11	4.33E-11	2.36E-08	6.40E-09	3.01E-08	3.01E-08
2 10.60 0.	2.35E-12	0.	0.	0.	0.	6.63E-11	4.46E-11	2.37E-08	6.39E-09	3.02E-08	3.02E-08
3 10.50 0.	2.31E-12	0.	0.	0.	0.	6.64E-11	4.59E-11	2.38E-08	6.38E-09	3.03E-08	3.03E-08
4 10.40 0.	2.10E-12	0.	0.	0.	0.	6.65E-11	4.72E-11	2.39E-08	6.38E-09	3.04E-08	3.04E-08
5 10.30 0.	1.75E-12	0.	0.	0.	0.	6.66E-11	4.86E-11	2.40E-08	6.37E-09	3.04E-08	3.04E-08
6 10.20 0.	1.76E-12	0.	0.	0.	0.	6.67E-11	5.01E-11	2.40E-08	6.36E-09	3.05E-08	3.05E-08
7 10.10 0.	1.61E-12	0.	0.	0.	0.	6.67E-11	5.16E-11	2.41E-08	6.35E-09	3.06E-08	3.06E-08
8 10.00 0.	1.33E-12	0.	0.	0.	0.	6.68E-11	5.31E-11	2.41E-08	6.34E-09	3.06E-08	3.06E-08
9 9.90 0.	1.35E-12	0.	0.	0.	0.	6.70E-11	5.48E-11	2.42E-08	6.33E-09	3.07E-08	3.07E-08
10 9.80 0.	1.21E-12	0.	0.	0.	0.	6.71E-11	5.65E-11	2.43E-08	6.32E-09	3.07E-08	3.07E-08
11 9.70 0.	9.90E-13	0.	0.	0.	0.	6.72E-11	5.83E-11	2.43E-08	6.31E-09	3.08E-08	3.08E-08
12 9.60 0.	1.06E-12	0.	0.	0.	0.	6.73E-11	6.01E-11	2.44E-08	6.30E-09	3.08E-08	3.08E-08
13 9.50 0.	8.56E-13	0.	0.	0.	0.	6.74E-11	6.20E-11	2.45E-08	6.29E-09	3.09E-08	3.09E-08
14 9.40 0.	7.75E-13	0.	0.	0.	0.	6.77E-11	6.40E-11	2.45E-08	6.28E-09	3.09E-08	3.09E-08
15 9.30 0.	7.84E-13	0.	0.	0.	0.	6.79E-11	6.61E-11	7.08E-09	6.27E-09	1.35E-08	1.35E-08
16 9.20 0.	6.02E-13	0.	0.	0.	0.	6.82E-11	6.83E-11	7.07E-09	6.26E-09	1.35E-08	1.35E-08
17 9.10 0.	6.16E-13	0.	0.	0.	0.	6.84E-11	7.06E-11	7.05E-09	6.25E-09	1.34E-08	1.34E-08
18 9.00 0.	5.33E-13	0.	0.	0.	0.	6.87E-11	7.30E-11	7.04E-09	6.25E-09	1.34E-08	1.34E-08
19 8.90 0.	4.70E-13	0.	0.	0.	0.	6.89E-11	7.55E-11	7.03E-09	6.24E-09	1.34E-08	1.34E-08
20 8.80 0.	4.52E-13	0.	0.	0.	0.	6.92E-11	7.81E-11	7.02E-09	6.23E-09	1.34E-08	1.34E-08
21 8.70 0.	3.69E-13	0.	0.	0.	0.	6.94E-11	8.09E-11	7.01E-09	6.22E-09	1.34E-08	1.34E-08
22 8.60 0.	3.75E-13	0.	0.	0.	0.	6.96E-11	8.38E-11	7.00E-09	6.21E-09	1.34E-08	1.34E-08
23 8.50 0.	3.08E-13	0.	0.	0.	0.	6.99E-11	8.68E-11	6.99E-09	6.20E-09	1.34E-08	1.34E-08
24 8.40 0.	3.00E-13	0.	0.	0.	0.	7.03E-11	8.99E-11	6.99E-09	6.20E-09	1.33E-08	1.33E-08
25 8.30 0.	2.42E-13	0.	0.	0.	0.	7.06E-11	9.32E-11	6.98E-09	6.21E-09	1.34E-08	1.34E-08
26 8.20 0.	2.37E-13	0.	0.	0.	0.	7.10E-11	9.67E-11	6.98E-09	6.25E-09	1.34E-08	1.34E-08
27 8.10 0.	1.94E-13	0.	0.	0.	0.	7.14E-11	1.00E-10	6.96E-09	6.30E-09	1.34E-08	1.34E-08
28 8.00 0.	1.90E-13	0.	0.	0.	0.	7.17E-11	1.04E-10	6.96E-09	6.34E-09	1.35E-08	1.35E-08
29 7.90 0.	1.55E-13	0.	0.	0.	0.	7.21E-11	1.08E-10	6.96E-09	6.39E-09	1.35E-08	1.35E-08
30 7.80 0.	1.56E-13	0.	0.	0.	0.	7.25E-11	1.12E-10	6.97E-09	6.43E-09	1.36E-08	1.36E-08
31 7.70 0.	1.30E-13	0.	0.	0.	0.	7.28E-11	1.17E-10	6.97E-09	6.48E-09	1.37E-08	1.37E-08
32 7.60 0.	1.19E-13	0.	0.	0.	0.	7.32E-11	1.21E-10	6.98E-09	6.52E-09	1.37E-08	1.37E-08
33 7.50 0.	1.05E-13	0.	0.	0.	0.	7.36E-11	1.26E-10	6.98E-09	6.57E-09	1.37E-08	1.37E-08
34 7.40 0.	9.08E-14	0.	0.	0.	0.	7.40E-11	1.32E-10	6.99E-09	6.61E-09	1.38E-08	1.38E-08
35 7.30 0.	8.25E-14	0.	0.	0.	0.	7.44E-11	1.37E-10	6.99E-09	6.66E-09	1.39E-08	1.39E-08
36 7.20 0.	7.12E-14	0.	0.	0.	0.	7.48E-11	1.43E-10	7.00E-09	6.70E-09	1.39E-08	1.39E-08
37 7.10 0.	6.58E-14	0.	0.	0.	0.	7.54E-11	1.49E-10	7.00E-09	6.75E-09	1.40E-08	1.40E-08
38 7.00 2.8E-17 0.	5.77E-14	0.	0.	0.	0.	7.60E-11	1.56E-10	7.01E-09	6.79E-09	1.40E-08	1.40E-08
39 6.90 5.4E-17 0.	5.07E-14	0.	0.	0.	0.	7.66E-11	1.62E-10	7.01E-09	6.84E-09	1.41E-08	1.41E-08
40 6.80 4.59E-17 0.	4.66E-14	0.	0.	0.	0.	7.73E-11	1.70E-10	7.02E-09	6.88E-09	1.41E-08	1.41E-08
41 6.70 3.24E-17 0.	3.89E-14	0.	0.	0.	0.	7.79E-11	1.77E-10	7.02E-09	6.93E-09	1.42E-08	1.42E-08
42 6.60 1.92E-17 0.	3.33E-14	0.	0.	0.	0.	7.85E-11	1.86E-10	7.05E-09	6.99E-09	1.43E-08	1.43E-08
43 6.50 1.07E-17 0.	2.50E-14	0.	0.	0.	0.	7.91E-11	1.94E-10	7.09E-09	7.04E-09	1.44E-08	1.44E-08
44 6.40 5.8E-18 0.	1.59E-14	0.	0.	0.	0.	7.97E-11	2.04E-10	7.13E-09	7.10E-09	1.45E-08	1.45E-08
45 6.30 3.27E-18 0.	9.08E-15	0.	0.	0.	0.	8.03E-11	2.14E-10	7.16E-09	7.17E-09	1.46E-08	1.46E-08
46 6.20 1.42E-18 0.	4.64E-15	0.	0.	0.	0.	8.09E-11	2.24E-10	7.21E-09	7.28E-09	1.48E-08	1.48E-08
47 6.10 6.2E-19 0.	2.02E-15	0.	0.	0.	0.	8.15E-11	2.35E-10	7.27E-09	7.39E-09	1.50E-08	1.50E-08
48 6.00 2.5E-19 0.	4.89E-16	0.	0.	0.	0.	8.22E-11	2.47E-10	7.34E-09	7.50E-09	1.52E-08	1.52E-08
49 5.90 5.97E-20 0.	3.49E-17	0.	0.	0.	0.	8.22E-11	2.60E-10	7.43E-09	7.62E-09	1.54E-08	1.54E-08
50 5.80 7.54E-21 0.	8.63E-19	0.	0.	0.	0.	8.09E-11	2.74E-10	7.50E-09	7.73E-09	1.56E-08	1.56E-08
51 5.70 5.53E-22 0.	0.	0.	0.	0.	0.	7.60E-11	2.89E-10	7.58E-09	7.84E-09	1.58E-08	1.58E-08



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 11000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTO 4 02 S-R ENERGY MUONS E.V.	02 S-K CONT.	02 R-H NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	N P.E.	D P.E.	TOTAL AIR	
1 10.70 0.	0.	5.10E-16	0.	0.	0.	1.16E-13	6.06E-13	3.24E-10	9.53E-11	4.20E-10
2 10.60 0.	0.	4.44E-16	0.	0.	0.	1.17E-13	6.23E-13	3.26E-10	9.51E-11	4.22E-10
3 10.50 0.	0.	4.37E-16	0.	0.	0.	1.17E-13	6.41E-13	3.28E-10	9.50E-11	4.23E-10
4 10.40 0.	0.	3.98E-16	0.	0.	0.	1.17E-13	6.60E-13	3.29E-10	9.49E-11	4.24E-10
5 10.30 0.	0.	3.31E-16	0.	0.	0.	1.17E-13	6.80E-13	3.30E-10	9.47E-11	4.25E-10
6 10.20 0.	0.	3.32E-16	0.	0.	0.	1.17E-13	7.00E-13	3.30E-10	9.46E-11	4.26E-10
7 10.10 0.	0.	3.04E-16	0.	0.	0.	1.17E-13	7.21E-13	3.31E-10	9.44E-11	4.27E-10
8 10.00 0.	0.	2.51E-16	0.	0.	0.	1.17E-13	7.43E-13	3.32E-10	9.43E-11	4.27E-10
9 9.90 0.	0.	2.55E-16	0.	0.	0.	1.18E-13	7.66E-13	3.33E-10	9.42E-11	4.28E-10
10 9.80 0.	0.	2.29E-16	0.	0.	0.	1.18E-13	7.90E-13	3.34E-10	9.40E-11	4.29E-10
11 9.70 0.	0.	1.87E-16	0.	0.	0.	1.18E-13	8.14E-13	3.35E-10	9.39E-11	4.29E-10
12 9.60 0.	0.	2.01E-16	0.	0.	0.	1.18E-13	8.40E-13	3.36E-10	9.37E-11	4.30E-10
13 9.50 0.	0.	1.62E-16	0.	0.	0.	1.19E-13	8.67E-13	3.36E-10	9.36E-11	4.31E-10
14 9.40 0.	0.	1.47E-16	0.	0.	0.	1.19E-13	8.95E-13	3.37E-10	9.35E-11	4.31E-10
15 9.30 0.	0.	1.48E-16	0.	0.	0.	1.19E-13	9.25E-13	3.37E-10	9.33E-11	4.32E-10
16 9.20 0.	0.	1.14E-16	0.	0.	0.	1.20E-13	9.55E-13	3.38E-10	9.32E-11	4.32E-10
17 9.10 0.	0.	1.16E-16	0.	0.	0.	1.20E-13	9.87E-13	3.39E-10	9.31E-11	4.33E-10
18 9.00 0.	0.	1.01E-16	0.	0.	0.	1.21E-13	1.02E-12	3.40E-10	9.29E-11	4.34E-10
19 8.90 0.	0.	8.89E-17	0.	0.	0.	1.21E-13	1.06E-12	3.41E-10	9.28E-11	4.35E-10
20 8.80 0.	0.	8.56E-17	0.	0.	0.	1.22E-13	1.09E-12	3.42E-10	9.27E-11	4.36E-10
21 8.70 0.	0.	6.97E-17	0.	0.	0.	1.22E-13	1.13E-12	3.43E-10	9.25E-11	4.37E-10
22 8.60 0.	0.	7.08E-17	0.	0.	0.	1.22E-13	1.17E-12	3.44E-10	9.24E-11	4.38E-10
23 8.50 0.	0.	5.83E-17	0.	0.	0.	1.23E-13	1.21E-12	3.45E-10	9.23E-11	4.39E-10
24 8.40 0.	0.	5.67E-17	0.	0.	0.	1.24E-13	1.26E-12	3.46E-10	9.22E-11	4.40E-10
25 8.30 0.	0.	4.53E-17	0.	0.	0.	1.24E-13	1.30E-12	3.47E-10	9.21E-11	4.41E-10
26 8.20 0.	0.	4.49E-17	0.	0.	0.	1.25E-13	1.35E-12	3.48E-10	9.20E-11	4.42E-10
27 8.10 0.	0.	3.66E-17	0.	0.	0.	1.25E-13	1.40E-12	3.49E-10	9.19E-11	4.43E-10
28 8.00 0.	0.	3.59E-17	0.	0.	0.	1.26E-13	1.46E-12	3.50E-10	9.18E-11	4.44E-10
29 7.90 0.	0.	2.93E-17	0.	0.	0.	1.27E-13	1.51E-12	3.51E-10	9.17E-11	4.45E-10
30 7.80 0.	0.	2.95E-17	0.	0.	0.	1.27E-13	1.57E-12	3.52E-10	9.16E-11	4.46E-10
31 7.70 0.	0.	2.46E-17	0.	0.	0.	1.28E-13	1.63E-12	3.53E-10	9.15E-11	4.47E-10
32 7.60 0.	0.	2.25E-17	0.	1.83E-21	0.	1.29E-13	1.70E-12	3.54E-10	9.14E-11	4.48E-10
33 7.50 0.	0.	1.99E-17	0.	8.66E-21	0.	1.29E-13	1.77E-12	3.55E-10	9.13E-11	4.49E-10
34 7.40 0.	0.	1.72E-17	0.	4.86E-20	0.	1.30E-13	1.84E-12	3.56E-10	9.12E-11	4.50E-10
35 7.30 0.	0.	1.56E-17	0.	2.37E-19	0.	1.31E-13	1.92E-12	3.57E-10	9.11E-11	4.51E-10
36 7.20 0.	0.	1.35E-17	0.	6.30E-19	0.	1.31E-13	2.00E-12	3.58E-10	9.10E-11	4.52E-10
37 7.10 0.	0.	1.24E-17	0.	1.73E-18	0.	1.33E-13	2.08E-12	3.63E-10	9.09E-11	4.53E-10
38 7.00 0.	0.	1.09E-17	0.	4.43E-18	0.	1.34E-13	2.18E-12	3.64E-10	9.08E-11	4.54E-10
39 6.90 0.	0.	9.59E-18	0.	4.73E-18	0.	1.35E-13	2.27E-12	3.65E-10	9.07E-11	4.55E-10
40 6.80 0.	0.	8.81E-18	0.	9.71E-18	0.	1.36E-13	2.37E-12	3.65E-10	9.06E-11	4.56E-10
41 6.70 0.	0.	7.36E-18	0.	1.14E-17	0.	1.37E-13	2.48E-12	3.66E-10	9.05E-11	4.57E-10
42 6.60 0.	0.	6.29E-18	0.	7.22E-18	0.	1.38E-13	2.60E-12	3.70E-10	9.04E-10	4.58E-10
43 6.50 0.	0.	4.72E-18	0.	1.26E-17	0.	1.39E-13	2.72E-12	3.75E-10	9.05E-10	4.59E-10
44 6.40 0.	0.	3.01E-18	0.	1.40E-17	0.	1.40E-13	2.85E-12	3.80E-10	9.06E-10	4.60E-10
45 6.30 0.	0.	1.72E-18	0.	2.99E-17	0.	1.41E-13	2.99E-12	3.86E-10	9.07E-10	4.61E-10
46 6.20 0.	0.	8.78E-19	0.	4.03E-19	0.	1.42E-13	3.13E-12	3.91E-10	9.08E-10	4.62E-10
47 6.10 0.	0.	3.83E-19	0.	1.11E-18	0.	1.43E-13	3.29E-12	3.99E-10	9.09E-10	4.63E-10
48 6.00 0.	0.	9.25E-20	0.	9.76E-19	0.	1.44E-13	3.46E-12	4.01E-10	9.10E-10	4.64E-10
49 5.90 0.	0.	6.59E-21	0.	1.39E-18	0.	1.44E-13	3.64E-12	4.02E-10	9.11E-10	4.65E-10
50 5.80 0.	0.	1.63E-22	0.	1.89E-18	0.	1.44E-13	3.83E-12	4.03E-10	9.12E-10	4.66E-10
51 5.70 0.	0.	0.	0.	2.08E-18	0.	1.34E-13	4.04E-12	4.04E-10	9.13E-10	4.67E-10

### ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 11000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

	PHOTON O2 S-R ENERGY HANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	VIB-ROT	NO	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	D P.E.	TOTAL AIR
52	5.60	5.44E-27	0.	0.	1.62E-18	1.10E-17	0.	0.	1.24E-13	4.26E-12	1.06E-10	1.18E-10	2.28E-10
53	5.50	0.	0.	0.	1.99E-18	1.04E-17	0.	0.	1.25E-13	4.50E-12	1.07E-10	1.20E-10	2.32E-10
54	5.40	0.	0.	0.	1.72E-18	7.34E-18	0.	0.	1.26E-13	4.75E-12	1.09E-10	1.22E-10	2.36E-10
55	5.30	0.	0.	0.	1.76E-18	1.03E-17	0.	0.	1.26E-13	5.03E-12	1.11E-10	1.24E-10	2.41E-10
56	5.20	0.	0.	0.	1.85E-18	6.44E-18	0.	0.	1.27E-13	5.33E-12	1.13E-10	1.27E-10	2.46E-10
57	5.10	0.	0.	0.	1.81E-18	8.64E-18	0.	0.	1.28E-13	5.65E-12	1.16E-10	1.30E-10	2.52E-10
58	5.00	6.70E-20	0.	0.	1.61E-18	7.62E-18	0.	0.	1.29E-13	6.00E-12	1.20E-10	1.33E-10	2.58E-10
59	4.90	1.54E-19	0.	0.	1.74E-18	7.82E-18	0.	0.	1.30E-13	6.37E-12	1.23E-10	1.35E-10	2.65E-10
60	4.80	2.74E-19	0.	0.	1.84E-18	7.20E-18	0.	0.	1.31E-13	6.70E-12	1.27E-10	1.38E-10	2.72E-10
61	4.70	3.49E-19	0.	0.	1.77E-18	6.25E-18	0.	0.	1.33E-13	7.11E-12	1.30E-10	1.42E-10	2.79E-10
62	4.60	4.54E-19	0.	0.	1.78E-18	5.77E-18	0.	0.	1.34E-13	7.71E-12	1.35E-10	1.45E-10	2.88E-10
63	4.50	4.62E-19	0.	0.	1.56E-18	4.19E-18	0.	0.	1.35E-13	8.24E-12	1.40E-10	1.49E-10	2.97E-10
64	4.40	4.72E-19	0.	0.	1.53E-18	3.02E-18	0.	0.	1.36E-13	8.82E-12	1.45E-10	1.51E-10	3.06E-10
65	4.30	4.22E-19	0.	0.	1.40E-18	1.74E-18	0.	0.	1.37E-13	9.44E-12	1.51E-10	1.47E-10	3.07E-10
66	4.20	3.84E-19	0.	0.	1.45E-18	1.36E-18	0.	0.	1.38E-13	1.01E-11	1.57E-10	1.47E-10	3.16E-10
67	4.10	3.52E-19	0.	0.	1.36E-18	3.56E-19	0.	0.	1.39E-13	1.09E-11	1.35E-10	3.25E-10	1.99E-10
68	4.00	3.14E-19	0.	0.	1.27E-18	2.72E-19	0.	0.	1.39E-13	1.18E-11	1.05E-10	3.35E-10	1.50E-10
69	3.90	2.55E-19	0.	0.	1.11E-18	1.14E-19	0.	0.	1.30E-13	1.27E-11	1.08E-10	3.45E-10	1.56E-10
70	3.80	2.74E-19	0.	0.	1.08E-18	0.	0.	0.	1.30E-13	1.37E-11	9.80E-11	3.57E-10	1.48E-10
71	3.70	2.30E-19	0.	0.	1.02E-17	6.25E-15	0.	0.	1.36E-13	1.49E-11	1.02E-10	3.98E-10	1.57E-10
72	3.60	2.00E-19	0.	0.	1.03E-17	3.90E-14	0.	0.	1.27E-13	1.62E-11	1.12E-10	4.46E-10	1.73E-10
73	3.50	1.80E-19	0.	0.	1.52E-17	1.07E-13	0.	0.	1.16E-13	1.76E-11	1.26E-10	4.97E-10	1.93E-10
74	3.40	1.57E-19	0.	0.	8.07E-18	9.43E-15	0.	0.	6.72E-14	1.92E-11	1.42E-10	5.54E-10	2.16E-10
75	3.30	1.22E-19	0.	0.	8.61E-18	4.81E-14	0.	0.	6.73E-14	2.10E-11	1.58E-10	6.11E-10	2.40E-10
76	3.20	1.02E-19	0.	0.	5.07E-18	1.11E-13	0.	0.	6.74E-14	2.30E-11	1.74E-10	6.71E-10	2.64E-10
77	3.10	9.37E-20	0.	0.	3.89E-18	1.47E-13	0.	0.	6.75E-14	2.54E-11	1.90E-10	7.31E-10	2.89E-10
78	3.00	8.00E-20	0.	0.	2.24E-18	4.76E-14	0.	0.	6.77E-14	2.80E-11	2.06E-10	7.91E-10	3.14E-10
79	2.90	6.39E-20	0.	0.	1.34E-18	2.98E-14	0.	0.	6.78E-14	3.11E-11	2.23E-10	8.52E-10	3.40E-10
80	2.80	6.43E-20	0.	0.	6.37E-19	1.27E-14	0.	0.	6.79E-14	3.45E-11	2.42E-10	8.63E-10	3.63E-10
81	2.70	3.85E-20	0.	0.	2.93E-19	2.31E-14	0.	0.	6.79E-14	3.86E-11	2.61E-10	3.59E-10	3.36E-10
82	2.60	1.66E-20	0.	0.	1.48E-19	2.16E-15	0.	0.	6.79E-14	4.32E-11	1.45E-10	3.90E-10	2.27E-10
83	2.50	1.12E-21	0.	0.	1.80E-20	1.78E-15	0.	0.	6.79E-14	4.87E-11	1.72E-10	4.50E-10	2.66E-10
84	2.40	0.	9.93E-19	0.	1.84E-15	1.05E-21	0.	0.	6.79E-14	5.51E-11	2.13E-10	5.53E-10	3.24E-10
85	2.30	0.	4.01E-18	0.	0.	0.	0.	0.	6.74E-14	6.26E-11	2.58E-10	6.64E-10	3.88E-10
86	2.20	0.	9.03E-18	0.	0.	0.	0.	0.	6.71E-14	7.17E-11	3.05E-10	8.00E-10	4.57E-10
87	2.10	0.	1.17E-17	0.	0.	0.	0.	0.	6.68E-14	8.25E-11	3.56E-10	9.37E-10	5.32E-10
88	2.00	0.	2.03E-17	0.	0.	0.	0.	0.	6.47E-14	9.56E-11	4.06E-10	1.07E-10	6.09E-10
89	1.90	0.	3.49E-17	0.	0.	0.	0.	0.	6.22E-14	1.12E-10	4.60E-10	1.22E-10	6.94E-10
90	1.80	0.	2.84E-17	0.	0.	0.	0.	0.	5.95E-14	1.32E-10	5.43E-10	1.46E-10	8.21E-10
91	1.70	0.	3.42E-17	0.	0.	0.	0.	0.	5.61E-14	1.57E-10	6.46E-10	1.63E-10	9.66E-10
92	1.60	0.	2.42E-17	0.	0.	0.	0.	0.	4.74E-14	1.88E-10	6.81E-10	1.93E-10	1.06E-09
93	1.50	0.	2.94E-17	0.	0.	0.	0.	0.	2.16E-14	2.29E-10	5.29E-10	2.27E-10	9.86E-10
94	1.40	0.	3.03E-17	0.	0.	0.	0.	0.	0.	2.82E-10	7.03E-10	1.86E-10	1.17E-09
95	1.30	0.	2.28E-17	0.	0.	0.	0.	0.	0.	3.54E-10	1.01E-09	2.66E-10	1.43E-09
96	1.20	0.	2.25E-17	0.	0.	0.	0.	0.	0.	4.52E-10	1.36E-09	3.20E-10	1.73E-09
97	1.10	0.	1.94E-17	0.	0.	0.	1.05E-22	0.	0.	5.89E-10	1.64E-09	4.08E-10	2.64E-09
98	1.00	0.	1.79E-17	0.	0.	0.	1.06E-21	0.	0.	7.86E-10	1.99E-09	4.96E-10	3.27E-09
99	0.90	0.	1.46E-17	0.	0.	0.	1.27E-21	0.	0.	1.09E-09	2.28E-09	5.68E-10	3.94E-09
100	0.80	0.	6.83E-18	0.	0.	0.	2.34E-20	0.	0.	1.57E-09	2.04E-09	4.71E-10	4.08E-09
101	0.70	0.	1.74E-18	0.	0.	0.	1.69E-20	0.	0.	2.35E-09	2.33E-09	5.41E-10	5.22E-09
102	0.60	0.	1.49E-19	0.	0.	0.	6.50E-20	0.	0.	3.75E-09	2.62E-09	6.12E-10	6.99E-09



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		12000.		DENSITY (GM/CC)		1.293E-02 (1.0E 01 NORMAL)		FREE-FREE (IONS)		N		P.E.		U		TOTAL AIR	
PHOTON ENERGY E.V.	U2 S-K	02 S-K	12 R-H	NO	BETA	GAMMA	NO	PHOTO-DET	FREE-FREE	N	P.E.	U	P.E.	U	P.E.	U	P.E.
1	10.70	0.	1.92E 01	0.	0.	0.	0.	9.81E-01	1.03E-03	8.55E 01	6.36E-02	6.36E-02	1.06E 02	6.36E-02	1.06E 02	6.36E-02	1.06E 02
2	10.60	0.	1.69E 01	0.	0.	0.	0.	9.82E-01	1.06E-03	2.42E-01	6.37E-02	6.37E-02	1.82E 01	6.37E-02	1.82E 01	6.37E-02	1.82E 01
3	10.50	0.	1.67E 01	0.	0.	0.	0.	9.84E-01	1.09E-03	2.44E-01	6.36E-02	6.36E-02	1.80E 01	6.36E-02	1.80E 01	6.36E-02	1.80E 01
4	10.40	0.	1.54E 01	0.	0.	0.	0.	9.85E-01	1.12E-03	2.44E-01	6.35E-02	6.35E-02	1.67E 01	6.35E-02	1.67E 01	6.35E-02	1.67E 01
5	10.30	0.	1.29E 01	0.	0.	0.	0.	9.86E-01	1.15E-03	2.45E-01	6.33E-02	6.33E-02	1.42E 01	6.33E-02	1.42E 01	6.33E-02	1.42E 01
6	10.20	0.	1.30E 01	0.	0.	0.	0.	9.87E-01	1.19E-03	2.46E-01	6.32E-02	6.32E-02	1.43E 01	6.32E-02	1.43E 01	6.32E-02	1.43E 01
7	10.10	0.	1.20E 01	0.	0.	0.	0.	9.89E-01	1.22E-03	2.46E-01	6.31E-02	6.31E-02	1.33E 01	6.31E-02	1.33E 01	6.31E-02	1.33E 01
8	10.00	0.	1.01E 01	0.	0.	0.	0.	9.90E-01	1.26E-03	2.47E-01	6.30E-02	6.30E-02	1.14E 01	6.30E-02	1.14E 01	6.30E-02	1.14E 01
9	9.90	0.	1.02E 01	0.	0.	0.	0.	9.92E-01	1.30E-03	2.47E-01	6.28E-02	6.28E-02	1.15E 01	6.28E-02	1.15E 01	6.28E-02	1.15E 01
10	9.80	0.	9.29E 00	0.	0.	0.	0.	9.94E-01	1.34E-03	2.48E-01	6.27E-02	6.27E-02	1.06E 01	6.27E-02	1.06E 01	6.27E-02	1.06E 01
11	9.70	0.	7.69E 00	0.	0.	0.	0.	9.95E-01	1.38E-03	2.49E-01	6.26E-02	6.26E-02	9.00E 00	6.26E-02	9.00E 00	6.26E-02	9.00E 00
12	9.60	0.	8.27E 00	0.	0.	0.	0.	9.97E-01	1.43E-03	2.49E-01	6.24E-02	6.24E-02	9.58E 00	6.24E-02	9.58E 00	6.24E-02	9.58E 00
13	9.50	0.	6.75E 00	0.	0.	0.	0.	9.99E-01	1.47E-03	2.50E-01	6.23E-02	6.23E-02	8.06E 00	6.23E-02	8.06E 00	6.23E-02	8.06E 00
14	9.40	0.	6.17E 00	0.	0.	0.	0.	1.00E 00	1.52E-03	2.51E-01	6.22E-02	6.22E-02	7.49E 00	6.22E-02	7.49E 00	6.22E-02	7.49E 00
15	9.30	0.	6.26E 00	0.	0.	0.	0.	1.01E 00	1.57E-03	2.52E-01	6.21E-02	6.21E-02	7.58E 00	6.21E-02	7.58E 00	6.21E-02	7.58E 00
16	9.20	0.	4.89E 00	0.	0.	0.	0.	1.01E 00	1.62E-03	2.52E-01	6.19E-02	6.19E-02	6.22E 00	6.19E-02	6.22E 00	6.19E-02	6.22E 00
17	9.10	0.	5.00E 00	0.	0.	0.	0.	1.01E 00	1.68E-03	7.51E-02	6.18E-02	6.18E-02	6.16E 00	6.18E-02	6.16E 00	6.18E-02	6.16E 00
18	9.00	0.	4.38E 00	0.	0.	0.	0.	1.02E 00	1.73E-03	7.50E-02	6.17E-02	6.17E-02	5.54E 00	6.17E-02	5.54E 00	6.17E-02	5.54E 00
19	8.90	0.	3.91E 00	0.	0.	0.	0.	1.02E 00	1.79E-03	7.49E-02	6.16E-02	6.16E-02	5.07E 00	6.16E-02	5.07E 00	6.16E-02	5.07E 00
20	8.80	0.	3.78E 00	0.	0.	0.	0.	1.02E 00	1.86E-03	7.48E-02	6.15E-02	6.15E-02	4.94E 00	6.15E-02	4.94E 00	6.15E-02	4.94E 00
21	8.70	0.	3.12E 00	0.	0.	0.	0.	1.03E 00	1.92E-03	7.48E-02	6.14E-02	6.14E-02	4.29E 00	6.14E-02	4.29E 00	6.14E-02	4.29E 00
22	8.60	0.	3.18E 00	0.	0.	0.	0.	1.03E 00	1.99E-03	7.47E-02	6.12E-02	6.12E-02	4.35E 00	6.12E-02	4.35E 00	6.12E-02	4.35E 00
23	8.50	0.	2.66E 00	0.	0.	0.	0.	1.03E 00	2.06E-03	7.47E-02	6.11E-02	6.11E-02	3.83E 00	6.11E-02	3.83E 00	6.11E-02	3.83E 00
24	8.40	0.	2.59E 00	0.	0.	0.	0.	1.04E 00	2.13E-03	7.47E-02	6.10E-02	6.10E-02	3.77E 00	6.10E-02	3.77E 00	6.10E-02	3.77E 00
25	8.30	0.	2.10E 00	0.	0.	0.	0.	1.05E 00	2.21E-03	7.47E-02	6.11E-02	6.11E-02	3.29E 00	6.11E-02	3.29E 00	6.11E-02	3.29E 00
26	8.20	0.	2.09E 00	0.	0.	0.	0.	1.05E 00	2.29E-03	7.47E-02	6.15E-02	6.15E-02	3.28E 00	6.15E-02	3.28E 00	6.15E-02	3.28E 00
27	8.10	0.	1.73E 00	0.	0.	0.	0.	1.06E 00	2.38E-03	7.46E-02	6.18E-02	6.18E-02	2.92E 00	6.18E-02	2.92E 00	6.18E-02	2.92E 00
28	8.00	0.	1.71E 00	0.	0.	0.	0.	1.06E 00	2.47E-03	7.46E-02	6.22E-02	6.22E-02	2.91E 00	6.22E-02	2.91E 00	6.22E-02	2.91E 00
29	7.90	0.	1.41E 00	0.	0.	0.	0.	1.07E 00	2.57E-03	7.48E-02	6.26E-02	6.26E-02	2.62E 00	6.26E-02	2.62E 00	6.26E-02	2.62E 00
30	7.80	0.	1.43E 00	0.	0.	0.	0.	1.07E 00	2.67E-03	7.49E-02	6.30E-02	6.30E-02	2.64E 00	6.30E-02	2.64E 00	6.30E-02	2.64E 00
31	7.70	0.	1.20E 00	0.	0.	0.	0.	1.08E 00	2.77E-03	7.50E-02	6.33E-02	6.33E-02	2.42E 00	6.33E-02	2.42E 00	6.33E-02	2.42E 00
32	7.60	0.	1.11E 00	0.	0.	0.	0.	1.08E 00	2.88E-03	7.51E-02	6.37E-02	6.37E-02	2.34E 00	6.37E-02	2.34E 00	6.37E-02	2.34E 00
33	7.50	0.	9.91E-01	0.	0.	0.	0.	1.09E 00	3.00E-03	7.53E-02	6.41E-02	6.41E-02	2.22E 00	6.41E-02	2.22E 00	6.41E-02	2.22E 00
34	7.40	0.	8.64E-01	0.	0.	0.	0.	1.10E 00	3.13E-03	7.54E-02	6.45E-02	6.45E-02	2.10E 00	6.45E-02	2.10E 00	6.45E-02	2.10E 00
35	7.30	0.	7.92E-01	0.	0.	0.	0.	1.10E 00	3.26E-03	7.55E-02	6.49E-02	6.49E-02	2.05E 00	6.49E-02	2.05E 00	6.49E-02	2.05E 00
36	7.20	0.	6.91E-01	0.	0.	0.	0.	1.11E 00	3.39E-03	7.57E-02	6.52E-02	6.52E-02	1.97E 00	6.52E-02	1.97E 00	6.52E-02	1.97E 00
37	7.10	0.	6.44E-01	0.	0.	0.	0.	1.12E 00	3.54E-03	7.58E-02	6.56E-02	6.56E-02	1.98E 00	6.56E-02	1.98E 00	6.56E-02	1.98E 00
38	7.00	0.	5.71E-01	0.	0.	0.	0.	1.13E 00	3.69E-03	7.59E-02	6.60E-02	6.60E-02	1.99E 00	6.60E-02	1.99E 00	6.60E-02	1.99E 00
39	6.90	0.	5.06E-01	0.	0.	0.	0.	1.13E 00	3.86E-03	7.61E-02	6.64E-02	6.64E-02	1.99E 00	6.64E-02	1.99E 00	6.64E-02	1.99E 00
40	6.80	0.	4.70E-01	0.	0.	0.	0.	1.14E 00	4.03E-03	7.62E-02	6.67E-02	6.67E-02	2.16E 00	6.67E-02	2.16E 00	6.67E-02	2.16E 00
41	6.70	0.	3.97E-01	0.	0.	0.	0.	1.15E 00	4.21E-03	7.63E-02	6.72E-02	6.72E-02	2.15E 00	6.72E-02	2.15E 00	6.72E-02	2.15E 00
42	6.60	0.	3.43E-01	0.	0.	0.	0.	1.16E 00	4.41E-03	7.67E-02	6.77E-02	6.77E-02	1.96E 00	6.77E-02	1.96E 00	6.77E-02	1.96E 00
43	6.50	0.	2.61E-01	0.	0.	0.	0.	1.17E 00	4.62E-03	7.72E-02	6.81E-02	6.81E-02	2.09E 00	6.81E-02	2.09E 00	6.81E-02	2.09E 00
44	6.40	0.	1.69E-01	0.	0.	0.	0.	1.18E 00	4.84E-03	7.77E-02	6.86E-02	6.86E-02	2.05E 00	6.86E-02	2.05E 00	6.86E-02	2.05E 00
45	6.30	0.	9.86E-02	0.	0.	0.	0.	1.19E 00	5.08E-03	7.82E-02	6.92E-02	6.92E-02	1.77E 00	6.92E-02	1.77E 00	6.92E-02	1.77E 00
46	6.20	0.	5.13E-02	0.	0.	0.	0.	1.20E 00	5.33E-03	7.87E-02	7.02E-02	7.02E-02	1.89E 00	7.02E-02	1.89E 00	7.02E-02	1.89E 00
47	6.10	0.	2.27E-02	0.	0.	0.	0.	1.21E 00	5.60E-03	7.95E-02	7.12E-02	7.12E-02	2.09E 00	7.12E-02	2.09E 00	7.12E-02	2.09E 00
48	6.00	0.	5.56E-03	0.	0.	0.	0.	1.22E 00	5.88E-03	8.04E-02	7.22E-02	7.22E-02	1.69E 00	7.22E-02	1.69E 00	7.22E-02	1.69E 00
49	5.90	0.	3.97E-04	0.	0.	0.	0.	1.22E 00	6.19E-03	8.13E-02	7.32E-02	7.32E-02	1.71E 00	7.32E-02	1.71E 00	7.32E-02	1.71E 00
50	5.80	0.	9.86E-06	0.	0.	0.	0.	1.20E 00	6.51E-03	8.23E-02	7.43E-02	7.43E-02	1.71E 00	7.43E-02	1.71E 00	7.43E-02	1.71E 00
51	5.70	0.	0.	0.	0.	0.	0.	1.13E 00	6.86E-03	8.32E-02	7.53E-02	7.53E-02	1.67E 00	7.53E-02	1.67E 00	7.53E-02	1.67E 00

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-02 (1.0E 01 NORMAL)		FREE-FREE		N		U		TOTAL AIR	
PHOTON 02 S-R		DENSITY (GM/CC)		1.293E-02 (1.0E 01 NORMAL)		FREE-FREE		N		U		TOTAL AIR	
ENERGY	RANDS	1ST POS.	2ND POS.	1ST NEG.	2ND NEG.	BETA	NO	GAMMA	VIB-RUT	NO	2	PHOTO-DET (IONS)	P.E.
52	5.60	2.3E-10	0.	0.	0.	6.59E-02	4.39E-01	0.	0.	0.	0.	1.05E 00	7.24E-03
53	5.50	0.	0.	0.	0.	8.05E-02	4.14E-01	0.	0.	0.	0.	1.05E 00	7.64E-03
54	5.40	0.	0.	0.	0.	7.05E-02	3.02E-01	0.	0.	0.	0.	1.06E 00	8.08E-03
55	5.30	0.	0.	0.	0.	7.24E-02	4.13E-01	0.	0.	0.	0.	1.06E 00	8.55E-03
56	5.20	0.	0.	0.	0.	7.62E-02	2.69E-01	0.	0.	0.	0.	1.07E 00	9.06E-03
57	5.10	0.	0.	0.	0.	7.50E-02	3.57E-01	0.	0.	0.	0.	1.08E 00	9.36E-03
58	5.00	2.97E-03	0.	0.	0.	6.71E-02	3.19E-01	0.	0.	0.	0.	1.09E 00	1.02E-02
59	4.90	6.93E-03	0.	0.	0.	7.51E-02	3.32E-01	0.	0.	0.	0.	1.10E 00	1.08E-02
60	4.80	1.24E-02	0.	0.	0.	7.75E-02	3.07E-01	0.	0.	0.	0.	1.11E 00	1.15E-02
61	4.70	1.61E-02	0.	0.	0.	7.52E-02	2.70E-01	0.	0.	0.	0.	1.12E 00	1.23E-02
62	4.60	2.15E-02	0.	0.	0.	7.59E-02	2.48E-01	0.	0.	0.	0.	1.13E 00	1.31E-02
63	4.50	2.17E-02	0.	0.	0.	6.72E-02	1.82E-01	0.	0.	0.	0.	1.13E 00	1.40E-02
64	4.40	2.24E-02	0.	0.	0.	6.63E-02	1.30E-01	0.	0.	0.	0.	1.14E 00	1.50E-02
65	4.30	2.0E-02	0.	0.	0.	6.12E-02	7.72E-02	0.	0.	0.	0.	1.15E 00	1.61E-02
66	4.20	1.87E-02	0.	0.	0.	6.38E-02	5.82E-02	0.	0.	0.	0.	1.16E 00	1.73E-02
67	4.10	1.71E-02	0.	0.	0.	6.04E-02	1.54E-02	0.	0.	0.	0.	1.17E 00	2.00E-02
68	4.00	1.53E-02	0.	0.	0.	5.69E-02	1.18E-02	0.	0.	0.	0.	1.17E 00	2.16E-02
69	3.90	1.26E-02	0.	0.	0.	5.02E-02	4.84E-03	0.	0.	0.	0.	1.16E 00	2.33E-02
70	3.80	1.36E-02	0.	0.	0.	4.79E-02	0.	0.	0.	0.	0.	1.14E 00	2.75E-02
71	3.70	1.15E-02	0.	0.	0.	6.37E-01	1.43E-01	0.	0.	0.	0.	1.07E 00	2.75E-02
72	3.60	1.01E-02	0.	0.	0.	9.17E-01	3.62E-01	0.	0.	0.	0.	9.81E-01	2.99E-02
73	3.50	9.2E-03	0.	0.	0.	5.08E-01	3.60E-02	0.	0.	0.	0.	5.66E-01	3.26E-02
74	3.40	8.12E-03	0.	0.	0.	5.35E-01	1.73E-01	0.	0.	0.	0.	5.67E-01	3.57E-02
75	3.30	6.36E-03	0.	0.	0.	3.24E-01	3.70E-01	0.	0.	0.	0.	5.68E-01	3.92E-02
76	3.20	5.35E-03	0.	0.	0.	2.48E-01	5.63E-02	0.	0.	0.	0.	5.69E-01	4.32E-02
77	3.10	4.92E-03	0.	0.	0.	1.45E-01	1.69E-01	0.	0.	0.	0.	5.70E-01	4.77E-02
78	3.00	4.29E-03	0.	0.	0.	8.79E-02	1.03E-01	0.	0.	0.	0.	5.71E-01	5.29E-02
79	2.90	3.46E-03	0.	0.	0.	4.19E-02	4.81E-02	0.	0.	0.	0.	5.72E-01	5.88E-02
80	2.80	3.51E-03	0.	0.	0.	1.93E-02	8.19E-02	0.	0.	0.	0.	5.72E-01	6.56E-02
81	2.70	2.14E-03	0.	0.	0.	9.73E-03	7.71E-03	0.	0.	0.	0.	5.72E-01	7.36E-02
82	2.60	9.4E-04	0.	0.	0.	1.15E-03	6.65E-03	0.	0.	0.	0.	5.72E-01	8.28E-02
83	2.50	6.41E-05	0.	0.	0.	6.08E-02	0.	0.	0.	0.	0.	5.72E-01	9.37E-02
84	2.40	0.	0.	0.	0.	2.31E-01	0.	0.	0.	0.	0.	5.68E-01	1.07E-01
85	2.30	0.	0.	0.	0.	5.38E-01	0.	0.	0.	0.	0.	5.65E-01	1.22E-01
86	2.20	0.	0.	0.	0.	6.64E-01	0.	0.	0.	0.	0.	5.63E-01	1.40E-01
87	2.10	0.	0.	0.	0.	1.19E 00	0.	0.	0.	0.	0.	5.45E-01	1.63E-01
88	2.00	0.	0.	0.	0.	1.91E 00	0.	0.	0.	0.	0.	5.24E-01	1.90E-01
89	1.90	0.	0.	0.	0.	1.56E 00	0.	0.	0.	0.	0.	5.01E-01	2.24E-01
90	1.80	0.	0.	0.	0.	1.87E 00	0.	0.	0.	0.	0.	4.72E-01	2.67E-01
91	1.70	0.	0.	0.	0.	1.33E 00	0.	0.	0.	0.	0.	4.00E-01	3.21E-01
92	1.60	0.	0.	0.	0.	1.61E 00	0.	0.	0.	0.	0.	1.82E-01	3.90E-01
93	1.50	0.	0.	0.	0.	1.64E 00	0.	0.	0.	0.	0.	0.	4.82E-01
94	1.40	0.	0.	0.	0.	1.24E 00	0.	0.	0.	0.	0.	0.	6.04E-01
95	1.30	0.	0.	0.	0.	1.21E 00	0.	0.	0.	0.	0.	0.	7.70E-01
96	1.20	0.	0.	0.	0.	1.07E 00	0.	0.	0.	0.	0.	0.	1.00E 00
97	1.10	0.	0.	0.	0.	9.84E-01	0.	0.	0.	0.	0.	0.	1.35E 00
98	1.00	0.	0.	0.	0.	8.05E-01	0.	0.	0.	0.	0.	0.	1.87E 00
99	0.90	0.	0.	0.	0.	3.78E-01	0.	0.	0.	0.	0.	0.	2.68E 00
100	0.80	0.	0.	0.	0.	9.50E-02	0.	0.	0.	0.	0.	0.	4.01E 00
101	0.70	0.	0.	0.	0.	9.61E-03	0.	0.	0.	0.	0.	0.	6.43E 00
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1200G.		DENSITY (GM/CC)		1.293E-03 (1.0E 00 NORMAL)		O-		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTO. ENERGY E.V.	O2 S-R	O2 S-R	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 17.70 0.	3.89E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 17.60 0.	3.42E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 16.50 0.	3.39E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 16.40 0.	3.11E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 16.30 0.	2.62E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 16.20 0.	2.64E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 16.10 0.	2.43E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 16.00 0.	2.04E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	2.07E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	1.88E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	1.56E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	1.67E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	1.37E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	1.25E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	1.27E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	9.90E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	1.01E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	8.87E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	7.91E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	7.64E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	6.32E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	6.44E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	5.38E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	5.25E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	4.26E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	4.23E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	3.50E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	3.45E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	2.85E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	2.89E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	2.44E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.	2.25E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	2.01E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	1.75E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	1.60E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	1.40E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	1.30E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.	1.15E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.	5.36E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.	4.52E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.	3.21E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.	1.91E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.	1.08E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.	5.96E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.	3.35E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.	1.46E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.	6.49E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.	2.61E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.	6.34E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.	8.01E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.	5.87E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		12000.		DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTOV	12 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R	02 S-R
ENERGY	FANDS	CONT.	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1
E.V.													
1	10.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1200G.		DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)		NO		O-		FREE-FREE		N		O		TOTAL AIR	
PHOTO: 22 S-R	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1
ENERGY HANDS	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1
E.V.	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1
1 10.70 0.	3.53E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.	3.10E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.	3.07E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.	2.82E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.	2.37E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.	2.39E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.	2.20E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.	1.85E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	1.88E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	1.70E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	1.41E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	1.52E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	1.24E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	1.13E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	1.15E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	8.97E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	9.18E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	8.03E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	7.16E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	6.93E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	5.73E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	5.83E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	4.87E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	4.76E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	3.86E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	3.84E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	3.17E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	3.13E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	2.58E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	2.62E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	2.21E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.	2.04E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	1.82E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	1.58E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	1.45E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	1.27E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	1.18E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.	1.05E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.	9.29E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.	8.62E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.	7.27E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.	6.28E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.	4.78E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.	3.10E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.	1.81E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.	9.41E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.	4.17E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.	1.02E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.	7.28E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.	5.55E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.	7.03E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
52 5.60 0.	5.10E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TEMPERATURE (DEGREES K) 12000.

PHOTON Q2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	U- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	2.31E-16	0.	0.	5.87E-07	0.	0.	3.03E-05	5.98E-06	1.14E-04	7.53E-05	2.27E-04
53	5.50	0.	0.	0.	5.54E-07	0.	0.	3.05E-05	6.31E-06	1.16E-04	7.64E-05	2.30E-04
54	5.40	0.	0.	0.	4.04E-07	0.	0.	3.06E-05	6.67E-06	1.18E-04	7.76E-05	2.34E-04
55	5.30	0.	0.	0.	5.53E-07	0.	0.	3.08E-05	7.06E-06	1.21E-04	7.89E-05	2.38E-04
56	5.20	0.	0.	0.	3.60E-07	0.	0.	3.10E-05	7.48E-06	1.23E-04	8.06E-05	2.43E-04
57	5.10	0.	0.	0.	4.78E-07	0.	0.	3.13E-05	7.93E-06	1.27E-04	8.23E-05	2.49E-04
58	5.00	2.91E-09	0.	0.	4.27E-07	0.	0.	3.16E-05	8.42E-06	1.30E-04	8.40E-05	2.55E-04
59	4.90	6.76E-09	0.	0.	4.45E-07	0.	0.	3.18E-05	8.95E-06	1.34E-04	8.57E-05	2.61E-04
60	4.80	1.21E-08	0.	0.	4.11E-07	0.	0.	3.21E-05	9.52E-06	1.38E-04	8.75E-05	2.68E-04
61	4.70	1.57E-08	0.	0.	3.61E-07	0.	0.	3.24E-05	1.01E-05	1.43E-04	8.97E-05	2.75E-04
62	4.60	2.08E-08	0.	0.	3.32E-07	0.	0.	3.26E-05	1.08E-05	1.48E-04	9.19E-05	2.84E-04
63	4.50	2.11E-08	0.	0.	2.44E-07	0.	0.	3.29E-05	1.16E-05	1.54E-04	9.42E-05	2.93E-04
64	4.40	2.16E-08	0.	0.	1.74E-07	0.	0.	3.31E-05	1.24E-05	1.60E-04	9.65E-05	3.03E-04
65	4.30	2.01E-08	0.	0.	1.03E-07	0.	0.	3.34E-05	1.33E-05	1.67E-04	9.89E-05	3.13E-04
66	4.20	1.82E-08	0.	0.	7.79E-08	0.	0.	3.37E-05	1.42E-05	1.73E-04	1.01E-04	3.24E-04
67	4.10	1.67E-08	0.	0.	2.07E-08	0.	0.	3.39E-05	1.53E-05	1.80E-04	1.03E-04	3.33E-04
68	4.00	1.49E-08	0.	0.	1.58E-08	0.	0.	3.39E-05	1.65E-05	1.87E-04	2.49E-05	2.65E-04
69	3.90	1.23E-08	0.	0.	6.47E-09	0.	0.	3.38E-05	1.78E-05	1.67E-04	2.57E-05	2.46E-04
70	3.80	1.33E-08	0.	0.	0.	0.	0.	3.37E-05	1.93E-05	1.71E-04	2.66E-05	2.57E-04
71	3.70	1.12E-08	0.	0.	0.	0.	0.	3.31E-05	2.09E-05	1.34E-04	2.96E-05	2.21E-04
72	3.60	9.91E-09	0.	0.	0.	0.	0.	3.10E-05	2.27E-05	1.45E-04	3.30E-05	2.42E-04
73	3.50	8.97E-09	0.	0.	0.	0.	0.	2.84E-05	2.47E-05	1.47E-04	3.67E-05	2.62E-04
74	3.40	7.91E-09	0.	0.	0.	0.	0.	1.64E-05	2.70E-05	1.66E-04	4.08E-05	2.53E-04
75	3.30	6.21E-09	0.	0.	0.	0.	0.	1.64E-05	2.95E-05	1.84E-04	4.49E-05	2.87E-04
76	3.20	5.21E-09	0.	0.	0.	0.	0.	1.64E-05	3.24E-05	2.02E-04	4.92E-05	3.24E-04
77	3.10	4.84E-09	0.	0.	0.	0.	0.	1.65E-05	3.57E-05	2.21E-04	5.36E-05	3.31E-04
78	3.00	4.18E-09	0.	0.	0.	0.	0.	1.65E-05	3.94E-05	2.40E-04	5.79E-05	3.65E-04
79	2.90	3.36E-09	0.	0.	0.	0.	0.	1.65E-05	4.36E-05	2.60E-04	6.24E-05	3.89E-04
80	2.80	3.43E-09	0.	0.	0.	0.	0.	1.64E-05	4.85E-05	2.82E-04	6.73E-05	4.17E-04
81	2.70	2.09E-09	0.	0.	0.	0.	0.	1.64E-05	5.42E-05	3.05E-04	7.26E-05	4.54E-04
82	2.60	9.17E-10	0.	0.	0.	0.	0.	1.64E-05	6.07E-05	3.30E-04	7.80E-05	4.86E-04
83	2.50	6.25E-11	0.	0.	0.	0.	0.	1.66E-05	6.84E-05	3.73E-04	8.61E-05	4.95E-04
84	2.40	0.	1.11E-07	0.	0.	0.	0.	1.66E-05	7.74E-05	4.33E-04	9.37E-05	5.71E-04
85	2.30	0.	4.24E-07	0.	0.	0.	0.	1.64E-05	8.80E-05	3.18E-04	5.24E-05	4.75E-04
86	2.20	0.	9.87E-07	0.	0.	0.	0.	1.64E-05	1.01E-04	3.76E-04	6.31E-05	5.57E-04
87	2.10	0.	1.22E-06	0.	0.	0.	0.	1.63E-05	1.16E-04	4.38E-04	7.38E-05	6.45E-04
88	2.00	0.	2.18E-06	0.	0.	0.	0.	1.58E-05	1.34E-04	5.00E-04	8.46E-05	7.37E-04
89	1.90	0.	3.50E-06	0.	0.	0.	0.	1.52E-05	1.57E-04	5.67E-04	9.64E-05	8.39E-04
90	1.80	0.	2.87E-06	0.	0.	0.	0.	1.45E-05	1.85E-04	6.72E-04	1.15E-04	9.90E-04
91	1.70	0.	3.43E-06	0.	0.	0.	0.	1.37E-05	2.20E-04	8.01E-04	1.40E-04	1.18E-03
92	1.60	0.	2.45E-06	0.	0.	0.	0.	1.16E-05	2.65E-04	9.29E-04	1.64E-04	1.37E-03
93	1.50	0.	2.95E-06	0.	0.	0.	0.	5.26E-06	3.22E-04	1.17E-03	1.98E-04	1.70E-03
94	1.40	0.	3.01E-06	0.	0.	0.	0.	0.	3.98E-04	1.44E-03	2.32E-04	2.07E-03
95	1.30	0.	2.27E-06	0.	0.	0.	0.	0.	4.99E-04	1.82E-03	3.04E-04	2.62E-03
96	1.20	0.	2.22E-06	0.	0.	0.	0.	0.	6.36E-04	1.82E-03	2.94E-04	2.75E-03
97	1.10	0.	1.96E-06	0.	0.	5.62E-12	0.	0.	8.28E-04	2.24E-03	3.69E-04	3.44E-03
98	1.00	0.	1.81E-06	0.	0.	6.20E-11	0.	0.	1.11E-03	2.71E-03	4.11E-04	4.23E-03
99	0.90	0.	1.48E-06	0.	0.	7.25E-11	0.	0.	1.54E-03	3.07E-03	4.84E-04	5.10E-03
100	0.80	0.	6.93E-07	0.	0.	1.40E-09	0.	0.	2.21E-03	3.53E-03	5.57E-04	6.30E-03
101	0.70	0.	1.74E-07	0.	0.	1.05E-09	0.	0.	3.31E-03	3.89E-03	6.10E-04	7.81E-03
102	0.60	0.	1.76E-08	0.	0.	3.93E-09	0.	0.	5.31E-03	4.34E-03	6.82E-04	1.03E-02



TEMPERATURE (DEGREES K) 1200G. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 E-H NO. 1	NO RETA	NO GAMMA	NO 2	PHOTO-DET (IONS)	O- FREE-FREE	N P.E.	0 P.E.	TOTAL AIR
1	10.70	0.	1.98E-07	0.	0.	0.	6.46E-07	6.45E-08	2.45E-05	5.20E-06	3.06E-05
2	10.60	0.	1.74E-07	0.	0.	0.	6.47E-07	6.64E-08	2.46E-05	5.19E-06	3.07E-05
3	10.50	0.	1.72E-07	0.	0.	0.	6.47E-07	6.83E-08	2.47E-05	5.18E-06	3.08E-05
4	10.40	0.	1.58E-07	0.	0.	0.	6.48E-07	7.03E-08	2.48E-05	5.17E-06	3.09E-05
5	10.30	0.	1.33E-07	0.	0.	0.	6.49E-07	7.24E-08	2.49E-05	5.16E-06	3.09E-05
6	10.20	0.	1.34E-07	0.	0.	0.	6.50E-07	7.45E-08	2.49E-05	5.15E-06	3.09E-05
7	10.10	0.	1.24E-07	0.	0.	0.	6.51E-07	7.64E-08	2.50E-05	5.14E-06	3.10E-05
8	10.00	0.	1.04E-07	0.	0.	0.	6.52E-07	7.91E-08	2.51E-05	5.13E-06	3.10E-05
9	9.90	0.	1.05E-07	0.	0.	0.	6.53E-07	8.16E-08	2.51E-05	5.12E-06	3.11E-05
10	9.80	0.	9.57E-08	0.	0.	0.	6.54E-07	8.41E-08	2.52E-05	5.11E-06	3.11E-05
11	9.70	0.	7.92E-08	0.	0.	0.	6.55E-07	8.68E-08	2.52E-05	5.10E-06	3.12E-05
12	9.60	0.	8.51E-08	0.	0.	0.	6.57E-07	8.95E-08	2.53E-05	5.09E-06	3.12E-05
13	9.50	0.	6.95E-08	0.	0.	0.	6.58E-07	9.24E-08	2.54E-05	5.07E-06	3.13E-05
14	9.40	0.	6.35E-08	0.	0.	0.	6.60E-07	9.54E-08	2.55E-05	5.06E-06	3.13E-05
15	9.30	0.	6.44E-08	0.	0.	0.	6.62E-07	9.85E-08	2.55E-05	5.05E-06	3.14E-05
16	9.20	0.	5.03E-08	0.	0.	0.	6.64E-07	1.02E-07	7.63E-06	5.05E-06	1.35E-05
17	9.10	0.	5.15E-08	0.	0.	0.	6.67E-07	1.05E-07	7.62E-06	5.04E-06	1.35E-05
18	9.00	0.	4.51E-08	0.	0.	0.	6.70E-07	1.09E-07	7.61E-06	5.03E-06	1.35E-05
19	8.90	0.	4.02E-08	0.	0.	0.	6.72E-07	1.12E-07	7.60E-06	5.02E-06	1.34E-05
20	8.80	0.	3.89E-08	0.	0.	0.	6.74E-07	1.16E-07	7.60E-06	5.01E-06	1.34E-05
21	8.70	0.	3.21E-08	0.	0.	0.	6.77E-07	1.20E-07	7.59E-06	5.00E-06	1.34E-05
22	8.60	0.	3.27E-08	0.	0.	0.	6.79E-07	1.25E-07	7.58E-06	4.99E-06	1.34E-05
23	8.50	0.	2.73E-08	0.	0.	0.	6.82E-07	1.29E-07	7.58E-06	4.98E-06	1.34E-05
24	8.40	0.	2.67E-08	0.	0.	0.	6.85E-07	1.34E-07	7.58E-06	4.97E-06	1.34E-05
25	8.30	0.	2.16E-08	0.	0.	0.	6.89E-07	1.39E-07	7.58E-06	4.97E-06	1.34E-05
26	8.20	0.	2.15E-08	0.	0.	0.	6.92E-07	1.44E-07	7.58E-06	5.01E-06	1.34E-05
27	8.10	0.	1.78E-08	0.	0.	0.	6.96E-07	1.49E-07	7.57E-06	5.04E-06	1.35E-05
28	8.00	0.	1.76E-08	0.	0.	0.	7.00E-07	1.55E-07	7.58E-06	5.07E-06	1.35E-05
29	7.90	0.	1.45E-08	0.	0.	0.	7.03E-07	1.61E-07	7.59E-06	5.10E-06	1.36E-05
30	7.80	0.	1.47E-08	0.	0.	0.	7.07E-07	1.67E-07	7.60E-06	5.13E-06	1.36E-05
31	7.70	0.	1.24E-08	0.	0.	0.	7.10E-07	1.74E-07	7.61E-06	5.16E-06	1.37E-05
32	7.60	0.	1.14E-08	0.	6.41E-13	0.	7.14E-07	1.81E-07	7.63E-06	5.19E-06	1

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON 02 S-R ENERGY BANDS		N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NU BETA	NO GAMMA	NO VIR-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
		TEMPERATURE (DEGREES K)		12000.		DENSITY (GM/CC)		1.293E-06		(10.0E-04 NORMAL)			
52	5.60	1.57E-18	0.	0.	5.44E-10	3.63E-09	0.	0.	6.89E-07	4.54E-07	8.55E-06	6.21E-06	1.59E-05
53	5.50	0.	0.	0.	6.65E-10	3.42E-09	0.	0.	6.93E-07	4.79E-07	8.70E-06	6.30E-06	1.62E-05
54	5.40	0.	0.	0.	5.83E-10	2.50E-09	0.	0.	6.97E-07	5.07E-07	8.88E-06	6.40E-06	1.65E-05
55	5.30	0.	0.	0.	5.98E-10	3.42E-09	0.	0.	7.01E-07	5.36E-07	9.06E-06	6.51E-06	1.68E-05
56	5.20	0.	0.	0.	6.30E-10	2.22E-09	0.	0.	7.06E-07	5.68E-07	9.25E-06	6.65E-06	1.72E-05
57	5.10	0.	0.	0.	6.20E-10	2.95E-09	0.	0.	7.12E-07	6.02E-07	9.50E-06	6.79E-06	1.76E-05
58	5.00	1.97E-11	0.	0.	5.54E-10	2.64E-09	0.	0.	7.17E-07	6.39E-07	9.78E-06	6.93E-06	1.81E-05
59	4.90	4.60E-11	0.	0.	6.04E-10	2.75E-09	0.	0.	7.23E-07	6.79E-07	1.01E-05	7.07E-06	1.85E-05
60	4.80	8.25E-11	0.	0.	6.41E-10	2.54E-09	0.	0.	7.29E-07	7.23E-07	1.04E-05	7.22E-06	1.90E-05
61	4.70	1.07E-10	0.	0.	6.22E-10	2.23E-09	0.	0.	7.35E-07	7.71E-07	1.07E-05	7.40E-06	1.96E-05
62	4.60	1.41E-10	0.	0.	6.27E-10	2.05E-09	0.	0.	7.41E-07	8.22E-07	1.11E-05	7.58E-06	2.02E-05
63	4.50	1.44E-10	0.	2.89E-10	5.55E-10	1.50E-09	0.	0.	7.47E-07	8.79E-07	1.15E-05	7.77E-06	2.09E-05
64	4.40	1.46E-10	0.	9.66E-10	5.48E-10	1.07E-09	0.	0.	7.53E-07	9.40E-07	1.20E-05	7.96E-06	2.16E-05
65	4.30	1.36E-10	0.	2.66E-09	5.06E-10	6.38E-10	0.	0.	7.59E-07	1.01E-06	1.25E-05	8.15E-06	2.24E-05
66	4.20	1.24E-10	0.	9.80E-09	5.28E-10	4.81E-10	0.	0.	7.65E-07	1.08E-06	1.30E-05	8.29E-06	2.31E-05
67	4.10	1.14E-10	0.	3.51E-09	4.99E-10	1.28E-10	0.	0.	7.68E-07	1.16E-06	1.35E-05	2.00E-06	1.74E-05
68	4.00	1.02E-10	0.	1.39E-08	4.70E-10	9.76E-11	0.	0.	7.71E-07	1.25E-06	1.21E-05	2.06E-06	1.62E-05
69	3.90	8.35E-11	0.	6.23E-09	4.15E-10	4.00E-11	0.	0.	7.68E-07	1.35E-06	1.24E-05	2.12E-06	1.66E-05
70	3.80	9.01E-11	0.	9.36E-09	3.62E-09	1.02E-08	0.	0.	7.65E-07	1.46E-06	9.68E-06	2.19E-06	1.42E-05
71	3.70	7.65E-11	0.	1.10E-08	3.00E-08	3.55E-10	0.	0.	7.53E-07	1.59E-06	1.00E-05	2.44E-06	1.49E-05
72	3.60	6.73E-11	0.	6.55E-09	1.82E-07	3.85E-10	0.	0.	7.06E-07	1.72E-06	9.87E-06	2.72E-06	1.52E-05
73	3.50	6.10E-11	0.	9.44E-09	4.61E-07	2.87E-10	0.	0.	6.46E-07	1.87E-06	1.10E-05	3.02E-06	1.71E-05
74	3.40	5.38E-11	0.	5.23E-09	4.58E-08	3.19E-10	0.	0.	3.72E-07	2.05E-06	1.24E-05	3.36E-06	1.82E-05
75	3.30	4.22E-11	0.	5.51E-09	2.20E-07	2.43E-10	0.	0.	3.73E-07	2.24E-06	1.38E-05	3.70E-06	2.03E-05
76	3.20	3.55E-11	0.	3.34E-09	4.72E-07	2.50E-10	0.	0.	3.74E-07	2.46E-06	1.52E-05	4.06E-06	2.25E-05
77	3.10	3.29E-11	0.	2.56E-09	7.17E-08	2.29E-10	0.	0.	3.75E-07	2.71E-06	1.66E-05	4.42E-06	2.42E-05
78	3.00	2.84E-11	0.	1.50E-09	2.16E-07	2.07E-10	0.	0.	3.75E-07	2.99E-06	1.80E-05	4.78E-06	2.64E-05
79	2.90	2.31E-11	0.	9.05E-10	1.31E-07	1.49E-10	0.	0.	3.76E-07	3.31E-06	1.95E-05	5.14E-06	2.84E-05
80	2.80	2.31E-11	0.	4.31E-10	6.12E-08	9.56E-11	0.	0.	3.77E-07	3.69E-06	2.11E-05	5.55E-06	3.08E-05
81	2.70	1.42E-11	0.	1.99E-10	1.04E-07	4.85E-11	0.	0.	3.77E-07	4.11E-06	2.29E-05	5.98E-06	3.34E-05
82	2.60	6.23E-12	0.	1.00E-10	9.83E-09	2.00E-11	0.	0.	3.77E-07	4.61E-06	2.47E-05	5.96E-06	3.57E-05
83	2.50	4.25E-13	0.	1.18E-11	8.48E-09	4.36E-12	0.	0.	3.77E-07	5.19E-06	2.79E-05	2.93E-06	3.64E-05
84	2.40	0.	6.25E-10	8.29E-09	4.71E-13	0.	0.	0.	3.77E-07	5.88E-06	1.97E-05	3.60E-06	2.95E-05
85	2.30	0.	2.38E-09	0.	0.	0.	0.	0.	3.74E-07	6.68E-06	2.38E-05	4.32E-06	3.52E-05
86	2.20	0.	5.54E-09	0.	0.	0.	0.	0.	3.72E-07	7.65E-06	2.82E-05	5.21E-06	4.14E-05
87	2.10	0.	6.83E-09	0.	0.	0.	0.	0.	3.71E-07	8.80E-06	3.28E-05	6.09E-06	4.81E-05
88	2.00	0.	1.22E-08	0.	0.	0.	0.	0.	3.59E-07	1.02E-05	3.75E-05	6.98E-06	5.50E-05
89	1.90	0.	1.97E-08	0.	0.	0.	0.	0.	3.45E-07	1.19E-05	4.25E-05	7.95E-06	6.27E-05
90	1.80	0.	1.61E-08	0.	0.	0.	0.	0.	3.30E-07	1.41E-05	5.03E-05	9.53E-06	7.43E-05
91	1.70	0.	1.92E-08	0.	0.	0.	0.	0.	3.11E-07	1.67E-05	6.00E-05	1.15E-05	8.85E-05
92	1.60	0.	1.37E-08	0.	0.	0.	0.	0.	2.63E-07	2.01E-05	6.96E-05	1.35E-05	1.03E-04
93	1.50	0.	1.65E-08	0.	0.	0.	0.	0.	1.20E-07	2.45E-05	8.80E-05	1.55E-05	1.28E-04
94	1.40	0.	1.69E-08	0.	0.	0.	0.	0.	0.	3.02E-05	1.01E-04	1.91E-05	1.51E-04
95	1.30	0.	1.28E-08	0.	0.	0.	0.	0.	0.	3.79E-05	1.01E-04	1.80E-05	1.57E-04
96	1.20	0.	1.25E-08	0.	0.	0.	0.	0.	0.	4.83E-05	1.33E-04	2.42E-05	2.05E-04
97	1.10	0.	1.10E-08	0.	0.	0.	3.47E-14	0.	0.	6.29E-05	1.68E-04	3.04E-05	2.61E-04
98	1.00	0.	1.01E-08	0.	0.	0.	3.93E-13	0.	0.	8.44E-05	1.96E-04	3.39E-05	3.14E-04
99	0.90	0.	8.29E-09	0.	0.	0.	4.48E-13	0.	0.	1.17E-04	2.30E-04	3.99E-05	3.87E-04
100	0.80	0.	3.89E-09	0.	0.	0.	8.67E-12	0.	0.	1.68E-04	2.65E-04	4.58E-05	4.78E-04
101	0.70	0.	9.78E-10	0.	0.	0.	6.50E-12	0.	0.	2.51E-04	2.91E-04	5.03E-05	5.93E-04
102	0.60	0.	9.90E-11	0.	0.	0.	2.43E-11	0.	0.	4.03E-04	2.60E-04	4.19E-05	7.05E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)	DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)
TEMPERATURE (DEGREES K) 12090.	

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		12000.		DENSITY (GM/CC)		1.293E-08 (1.0E-05 NORMAL)		O-		FREE-FREE		N		O		TOTAL AIR	
PHOTON ENERGY	WAVELENGTH	WAVELENGTH	WAVELENGTH	WAVELENGTH	WAVELENGTH	WAVELENGTH	WAVELENGTH	PHOTO-DET	PHOTO-DET	IONS	IONS	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.
E.V.	CM.	CM.	CM.	CM.	CM.	CM.	CM.	CM.	CM.	CM.	CM.	CM.	CM.	CM.	CM.	CM.	CM.
1	10.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 12000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON ENERGY E.V.	02 S-R CONT.	N2 R-H NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	0.	1.57E-17	0.	0.	0.	2.47E-14	6.04E-13	2.15E-10	6.50E-11	2.81E-10
2 10.60 0.	0.	1.34E-17	0.	0.	0.	2.47E-14	6.21E-13	2.16E-10	6.49E-11	2.82E-10
3 10.50 0.	0.	1.32E-17	0.	0.	0.	2.48E-14	6.39E-13	2.17E-10	6.48E-11	2.82E-10
4 10.40 0.	0.	1.22E-17	0.	0.	0.	2.48E-14	6.58E-13	2.18E-10	6.46E-11	2.83E-10
5 10.30 0.	0.	1.07E-17	0.	0.	0.	2.48E-14	6.77E-13	2.18E-10	6.45E-11	2.84E-10
6 10.20 0.	0.	1.03E-17	0.	0.	0.	2.49E-14	6.98E-13	2.19E-10	6.44E-11	2.84E-10
7 10.10 0.	0.	9.50E-18	0.	0.	0.	2.49E-14	7.19E-13	2.19E-10	6.42E-11	2.84E-10
8 10.00 0.	0.	7.96E-18	0.	0.	0.	2.49E-14	7.41E-13	2.20E-10	6.41E-11	2.85E-10
9 9.90 0.	0.	8.69E-18	0.	0.	0.	2.50E-14	7.63E-13	2.21E-10	6.40E-11	2.85E-10
10 9.80 0.	0.	7.35E-18	0.	0.	0.	2.50E-14	7.87E-13	2.21E-10	6.39E-11	2.86E-10
11 9.70 0.	0.	6.09E-18	0.	0.	0.	2.51E-14	8.12E-13	2.22E-10	6.37E-11	2.86E-10
12 9.60 0.	0.	6.54E-18	0.	0.	0.	2.51E-14	8.38E-13	2.22E-10	6.36E-11	2.87E-10
13 9.50 0.	0.	5.34E-18	0.	0.	0.	2.51E-14	8.64E-13	2.23E-10	6.35E-11	2.87E-10
14 9.40 0.	0.	4.88E-18	0.	0.	0.	2.52E-14	8.93E-13	2.23E-10	6.33E-11	2.87E-10
15 9.30 0.	0.	4.95E-18	0.	0.	0.	2.53E-14	9.22E-13	2.23E-10	6.32E-11	2.87E-10
16 9.20 0.	0.	3.87E-18	0.	0.	0.	2.54E-14	9.52E-13	2.23E-10	6.31E-11	2.87E-10
17 9.10 0.	0.	3.96E-18	0.	0.	0.	2.55E-14	9.84E-13	2.23E-10	6.30E-11	2.87E-10
18 9.00 0.	0.	3.47E-18	0.	0.	0.	2.56E-14	1.02E-12	2.23E-10	6.28E-11	2.87E-10
19 8.90 0.	0.	3.09E-18	0.	0.	0.	2.57E-14	1.05E-12	2.23E-10	6.27E-11	2.87E-10
20 8.80 0.	0.	2.99E-18	0.	0.	0.	2.58E-14	1.09E-12	2.23E-10	6.26E-11	2.87E-10
21 8.70 0.	0.	2.47E-18	0.	0.	0.	2.59E-14	1.13E-12	2.23E-10	6.25E-11	2.87E-10
22 8.60 0.	0.	2.52E-18	0.	0.	0.	2.60E-14	1.17E-12	2.23E-10	6.24E-11	2.87E-10
23 8.50 0.	0.	2.10E-18	0.	0.	0.	2.61E-14	1.21E-12	2.23E-10	6.23E-11	2.87E-10
24 8.40 0.	0.	2.05E-18	0.	0.	0.	2.62E-14	1.25E-12	2.23E-10	6.21E-11	2.87E-10
25 8.30 0.	0.	1.66E-18	0.	0.	0.	2.63E-14	1.30E-12	2.23E-10	6.22E-11	2.87E-10
26 8.20 0.	0.	1.65E-18	0.	0.	0.	2.65E-14	1.35E-12	2.23E-10	6.26E-11	2.87E-10
27 8.10 0.	0.	1.37E-18	0.	0.	0.	2.66E-14	1.40E-12	2.23E-10	6.30E-11	2.87E-10
28 8.00 0.	0.	1.35E-18	0.	0.	0.	2.68E-14	1.45E-12	2.23E-10	6.34E-11	2.87E-10
29 7.90 0.	0.	1.11E-18	0.	0.	0.	2.69E-14	1.51E-12	2.23E-10	6.37E-11	2.87E-10
30 7.80 0.	0.	1.13E-18	0.	0.	0.	2.70E-14	1.57E-12	2.23E-10	6.41E-11	2.87E-10
31 7.70 0.	0.	9.52E-19	0.	0.	0.	2.72E-14	1.63E-12	2.23E-10	6.45E-11	2.87E-10
32 7.60 0.	0.	8.79E-19	0.	7.02E-23	0.	2.73E-14	1.69E-12	2.23E-10	6.49E-11	2.87E-10
33 7.50 0.	0.	7.84E-19	0.	3.10E-22	0.	2.74E-14	1.76E-12	2.23E-10	6.53E-11	2.87E-10
34 7.40 0.	0.	6.83E-19	0.	1.89E-21	0.	2.76E-14	1.83E-12	2.23E-10	6.57E-11	2.87E-10
35 7.30 0.	0.	6.27E-19	0.	8.83E-21	0.	2.77E-14	1.91E-12	2.23E-10	6.60E-11	2.87E-10
36 7.20 0.	0.	5.47E-19	0.	2.35E-20	0.	2.79E-14	1.99E-12	2.23E-10	6.64E-11	2.87E-10
37 7.10 0.	0.	5.09E-19	0.	6.69E-20	0.	2.81E-14	2.08E-12	2.23E-10	6.68E-11	2.87E-10
38 7.00 0.	0.	4.51E-19	0.	1.62E-19	0.	2.84E-14	2.17E-12	2.23E-10	6.72E-11	2.87E-10
39 6.90 0.	0.	4.00E-19	0.	1.82E-19	0.	2.86E-14	2.26E-12	2.23E-10	6.76E-11	2.87E-10
40 6.80 0.	0.	3.72E-19	0.	3.62E-19	0.	2.88E-14	2.36E-12	2.23E-10	6.80E-11	2.87E-10
41 6.70 0.	0.	3.14E-19	0.	4.09E-19	0.	2.90E-14	2.47E-12	2.23E-10	6.84E-11	2.87E-10
42 6.60 0.	0.	2.71E-19	0.	2.74E-19	0.	2.93E-14	2.59E-12	2.23E-10	6.89E-11	2.87E-10
43 6.50 0.	0.	2.06E-19	0.	4.63E-19	0.	2.95E-14	2.71E-12	2.23E-10	6.94E-11	2.87E-10
44 6.40 0.	0.	1.34E-19	2.25E-21	4.96E-19	0.	2.97E-14	2.84E-12	2.23E-10	6.98E-11	2.87E-10
45 6.30 0.	0.	7.80E-20	1.01E-20	2.85E-19	0.	3.00E-14	2.98E-12	2.23E-10	7.05E-11	2.87E-10
46 6.20 0.	0.	4.06E-20	1.38E-20	4.22E-19	0.	3.02E-14	3.13E-12	2.23E-10	7.15E-11	2.87E-10
47 6.10 0.	0.	1.80E-20	3.84E-20	5.94E-19	0.	3.04E-14	3.28E-12	2.23E-10	7.25E-11	2.87E-10
48 6.00 0.	0.	4.40E-21	3.43E-20	2.49E-19	0.	3.06E-14	3.45E-12	2.23E-10	7.36E-11	2.87E-10
49 5.90 0.	0.	3.14E-22	4.92E-20	2.55E-19	0.	3.06E-14	3.63E-12	2.23E-10	7.46E-11	2.87E-10
50 5.80 0.	0.	7.80E-24	6.71E-20	2.48E-19	0.	3.02E-14	3.82E-12	2.23E-10	7.56E-11	2.87E-10
51 5.70 0.	0.	0.	7.51E-20	2.72E-19	0.	2.84E-14	4.03E-12	2.23E-10	7.66E-11	2.87E-10

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-09 (1.0E-06 NORMAL)		FREE-FREE		PHOTU-DET (IONS)		N		P.E.		TOTAL AIR	
PHOTON	Q2 S-R	N2	1ST POS.	N2	2ND POS.	1ST NEG.	N2+	NO	RETA	NO	GAMMA	NO	VIB-ROT	NO	2
ENERGY	PANDS														
52	5.60	2.45E-28	0.	0.	0.	0.	0.	5.96E-20	3.97E-19	0.	0.	2.64E-14	4.25E-12	7.50E-11	7.77E-11
53	5.50	0.	0.	0.	0.	0.	0.	7.29E-20	3.75E-19	0.	0.	2.65E-14	4.48E-12	7.63E-11	7.88E-11
54	5.40	0.	0.	0.	0.	0.	0.	6.38E-20	2.73E-19	0.	0.	2.66E-14	4.74E-12	7.79E-11	8.00E-11
55	5.30	0.	0.	0.	0.	0.	0.	6.55E-20	3.74E-19	0.	0.	2.68E-14	5.02E-12	7.94E-11	8.14E-11
56	5.20	0.	0.	0.	0.	0.	0.	6.90E-20	2.43E-19	0.	0.	2.70E-14	5.31E-12	8.11E-11	8.31E-11
57	5.10	0.	0.	0.	0.	0.	0.	6.79E-20	3.24E-19	0.	0.	2.72E-14	5.63E-12	8.33E-11	8.49E-11
58	5.00	3.01E-21	0.	0.	0.	0.	0.	6.07E-20	2.89E-19	0.	0.	2.74E-14	5.98E-12	8.57E-11	8.66E-11
59	4.90	7.18E-21	0.	0.	0.	0.	0.	6.62E-20	3.01E-19	0.	0.	2.77E-14	6.36E-12	8.83E-11	8.84E-11
60	4.80	1.29E-20	0.	0.	0.	0.	0.	7.02E-20	2.78E-19	0.	0.	2.79E-14	6.77E-12	9.10E-11	9.02E-11
61	4.70	1.67E-20	0.	0.	0.	0.	0.	6.81E-20	2.44E-19	0.	0.	2.81E-14	7.21E-12	9.37E-11	9.25E-11
62	4.60	2.21E-20	0.	0.	0.	0.	0.	6.87E-20	2.25E-19	0.	0.	2.84E-14	7.70E-12	9.70E-11	9.48E-11
63	4.50	2.25E-20	0.	0.	0.	0.	0.	6.08E-20	1.65E-19	0.	0.	2.86E-14	8.22E-12	1.01E-10	9.71E-11
64	4.40	2.37E-20	0.	0.	0.	0.	0.	6.00E-20	1.18E-19	0.	0.	2.88E-14	8.80E-12	1.05E-10	9.88E-11
65	4.30	2.12E-20	0.	0.	0.	0.	0.	5.54E-20	6.99E-20	0.	0.	2.90E-14	9.43E-12	1.09E-10	9.42E-11
66	4.20	1.94E-20	0.	0.	0.	0.	0.	5.78E-20	5.27E-20	0.	0.	2.93E-14	1.01E-11	1.14E-10	2.42E-11
67	4.10	1.77E-20	0.	0.	0.	0.	0.	5.47E-20	1.40E-20	0.	0.	2.94E-14	1.09E-11	1.01E-10	2.50E-11
68	4.00	1.59E-20	0.	0.	0.	0.	0.	5.15E-20	1.07E-20	0.	0.	2.95E-14	1.17E-11	7.87E-11	2.57E-11
69	3.90	1.35E-20	0.	0.	0.	0.	0.	4.79E-19	4.53E-16	0.	0.	2.94E-14	1.27E-11	8.18E-11	2.65E-11
70	3.80	1.41E-20	0.	0.	0.	0.	0.	7.19E-19	2.57E-15	0.	0.	2.93E-14	1.37E-11	7.58E-11	2.74E-11
71	3.70	1.20E-20	0.	0.	0.	0.	0.	6.48E-19	7.53E-16	0.	0.	2.88E-14	1.48E-11	7.91E-11	3.03E-11
72	3.60	1.05E-20	0.	0.	0.	0.	0.	5.04E-19	4.57E-15	0.	0.	2.70E-14	1.61E-11	8.66E-11	3.40E-11
73	3.50	9.53E-21	0.	0.	0.	0.	0.	7.26E-19	1.16E-14	0.	0.	2.47E-14	1.75E-11	9.69E-11	3.78E-11
74	3.40	8.41E-21	0.	0.	0.	0.	0.	4.02E-19	1.15E-15	0.	0.	1.42E-14	1.92E-11	1.09E-10	4.21E-11
75	3.30	6.60E-21	0.	0.	0.	0.	0.	4.24E-19	5.52E-15	0.	0.	1.43E-14	2.10E-11	1.21E-10	4.63E-11
76	3.20	5.54E-21	0.	0.	0.	0.	0.	2.56E-19	1.19E-14	0.	0.	1.43E-14	2.30E-11	1.33E-10	5.08E-11
77	3.10	5.15E-21	0.	0.	0.	0.	0.	1.96E-19	1.80E-15	0.	0.	1.43E-14	2.53E-11	1.45E-10	5.53E-11
78	3.00	4.44E-21	0.	0.	0.	0.	0.	1.15E-19	5.42E-15	0.	0.	1.44E-14	2.80E-11	1.58E-10	5.97E-11
79	2.90	3.59E-21	0.	0.	0.	0.	0.	6.96E-20	3.28E-15	0.	0.	1.44E-14	3.10E-11	1.71E-10	6.43E-11
80	2.80	3.64E-21	0.	0.	0.	0.	0.	3.31E-20	1.54E-15	0.	0.	1.44E-14	3.45E-11	1.85E-10	6.42E-11
81	2.70	2.22E-21	0.	0.	0.	0.	0.	1.53E-20	2.62E-15	0.	0.	1.44E-14	3.85E-11	2.00E-10	2.92E-11
82	2.60	9.74E-22	0.	0.	0.	0.	0.	7.69E-21	2.47E-16	0.	0.	1.44E-14	4.32E-11	1.17E-10	3.18E-11
83	2.50	6.64E-23	0.	0.	0.	0.	0.	9.09E-22	2.13E-16	0.	0.	1.44E-14	4.86E-11	1.39E-10	3.67E-11
84	2.40	0.	4.81E-20	0.	0.	0.	0.	2.08E-16	5.16E-23	0.	0.	1.44E-14	5.50E-11	1.72E-10	4.51E-11
85	2.30	0.	1.83E-19	0.	0.	0.	0.	0.	0.	0.	0.	1.43E-14	6.26E-11	2.09E-10	5.40E-11
86	2.20	0.	4.26E-19	0.	0.	0.	0.	0.	0.	0.	0.	1.42E-14	7.16E-11	2.47E-10	6.51E-11
87	2.10	0.	5.25E-19	0.	0.	0.	0.	0.	0.	0.	0.	1.42E-14	8.24E-11	2.88E-10	7.61E-11
88	2.00	0.	9.40E-19	0.	0.	0.	0.	0.	0.	0.	0.	1.37E-14	9.55E-11	3.28E-10	8.72E-11
89	1.90	0.	1.51E-18	0.	0.	0.	0.	0.	0.	0.	0.	1.32E-14	1.12E-10	3.73E-10	9.94E-11
90	1.80	0.	1.24E-18	0.	0.	0.	0.	0.	0.	0.	0.	1.26E-14	1.32E-10	4.41E-10	1.19E-10
91	1.70	0.	1.48E-18	0.	0.	0.	0.	0.	0.	0.	0.	1.19E-14	1.57E-10	5.26E-10	1.35E-10
92	1.60	0.	1.06E-18	0.	0.	0.	0.	0.	0.	0.	0.	1.01E-14	1.88E-10	5.58E-10	1.59E-10
93	1.50	0.	1.27E-18	0.	0.	0.	0.	0.	0.	0.	0.	4.57E-15	2.29E-10	4.52E-10	1.87E-10
94	1.40	0.	1.30E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.83E-10	6.00E-10	1.57E-10
95	1.30	0.	9.81E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.55E-10	8.60E-10	2.25E-10
96	1.20	0.	9.60E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.52E-10	1.17E-09	2.74E-10
97	1.10	0.	8.47E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.88E-10	1.42E-09	3.49E-10
98	1.00	0.	7.79E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.90E-10	1.72E-09	4.24E-10
99	0.90	0.	6.37E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.10E-09	1.96E-09	4.82E-10
100	0.80	0.	2.99E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.57E-09	1.77E-09	4.03E-10
101	0.70	0.	7.51E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.35E-09	2.03E-09	4.64E-10
102	0.60	0.	7.60E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.77E-09	2.28E-09	5.24E-10



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1300C.		DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)		O- PHOTO-DET (IONS)		FREE-FREE P.E.		N P.E.		TOTAL AIR P.E.	
PHOTON ENERGY E.V.	Q2 S-R RANGS	Q2 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	TOTAL AIR P.E.			
1 10.70 0.	1.30E 01	0.	0.	0.	0.	0.	1.38E 00	3.05E-03	1.26E 02	1.42E-01	1.40E 02		
2 10.60 0.	1.16E 01	0.	0.	0.	0.	0.	1.38E 00	3.13E-03	6.27E-01	1.42E-01	1.37E 01		
3 10.50 0.	1.15E 01	0.	0.	0.	0.	0.	1.38E 00	3.22E-03	6.31E-01	1.41E-01	1.37E 01		
4 10.40 0.	1.06E 01	0.	0.	0.	0.	0.	1.38E 00	3.32E-03	6.33E-01	1.41E-01	1.28E 01		
5 10.30 0.	9.04E 00	0.	0.	0.	0.	0.	1.38E 00	3.42E-03	6.34E-01	1.41E-01	1.12E 01		
6 10.20 0.	9.17E 00	0.	0.	0.	0.	0.	1.38E 00	3.52E-03	6.36E-01	1.40E-01	1.13E 01		
7 10.10 0.	8.48E 00	0.	0.	0.	0.	0.	1.39E 00	3.63E-03	6.37E-01	1.40E-01	1.06E 01		
8 10.00 0.	7.13E 00	0.	0.	0.	0.	0.	1.39E 00	3.74E-03	6.39E-01	1.40E-01	9.36E 00		
9 9.90 0.	7.33E 00	0.	0.	0.	0.	0.	1.39E 00	3.85E-03	6.40E-01	1.39E-01	9.50E 00		
10 9.80 0.	6.71E 00	0.	0.	0.	0.	0.	1.39E 00	3.97E-03	6.42E-01	1.39E-01	8.89E 00		
11 9.70 0.	5.61E 00	0.	0.	0.	0.	0.	1.40E 00	4.10E-03	6.44E-01	1.39E-01	7.79E 00		
12 9.60 0.	6.04E 00	0.	0.	0.	0.	0.	1.40E 00	4.23E-03	6.45E-01	1.38E-01	8.22E 00		
13 9.50 0.	4.99E 00	0.	0.	0.	0.	0.	1.40E 00	4.36E-03	6.47E-01	1.38E-01	7.18E 00		
14 9.40 0.	4.59E 00	0.	0.	0.	0.	0.	1.41E 00	4.50E-03	6.49E-01	1.37E-01	6.79E 00		
15 9.30 0.	4.67E 00	0.	0.	0.	0.	0.	1.41E 00	4.65E-03	6.51E-01	1.37E-01	6.88E 00		
16 9.20 0.	3.71E 00	0.	0.	0.	0.	0.	1.42E 00	4.80E-03	6.53E-01	1.37E-01	5.92E 00		
17 9.10 0.	3.79E 00	0.	0.	0.	0.	0.	1.42E 00	4.96E-03	2.02E-01	1.36E-01	5.56E 00		
18 9.00 0.	3.35E 00	0.	0.	0.	0.	0.	1.43E 00	5.13E-03	2.02E-01	1.36E-01	5.12E 00		
19 8.90 0.	3.02E 00	0.	0.	0.	0.	0.	1.43E 00	5.31E-03	2.02E-01	1.36E-01	4.79E 00		
20 8.80 0.	2.93E 00	0.	0.	0.	0.	0.	1.44E 00	5.49E-03	2.01E-01	1.35E-01	4.71E 00		
21 8.70 0.	2.45E 00	0.	0.	0.	0.	0.	1.44E 00	5.68E-03	2.01E-01	1.35E-01	4.23E 00		
22 8.60 0.	2.50E 00	0.	0.	0.	0.	0.	1.45E 00	5.88E-03	2.01E-01	1.35E-01	4.29E 00		
23 8.50 0.	2.11E 00	0.	0.	0.	0.	0.	1.45E 00	6.09E-03	2.01E-01	1.35E-01	3.91E 00		
24 8.40 0.	2.07E 00	0.	0.	0.	0.	0.	1.46E 00	6.32E-03	2.01E-01	1.34E-01	3.87E 00		
25 8.30 0.	1.70E 00	0.	0.	0.	0.	0.	1.47E 00	6.55E-03	2.02E-01	1.34E-01	3.51E 00		
26 8.20 0.	1.70E 00	0.	0.	0.	0.	0.	1.47E 00	6.79E-03	2.02E-01	1.35E-01	3.52E 00		
27 8.10 0.	1.42E 00	0.	0.	0.	0.	0.	1.48E 00	7.04E-03	2.02E-01	1.36E-01	3.24E 00		
28 8.00 0.	1.41E 00	0.	0.	0.	0.	0.	1.49E 00	7.31E-03	2.02E-01	1.36E-01	3.24E 00		
29 7.90 0.	1.17E 00	0.	0.	0.	0.	0.	1.50E 00	7.59E-03	2.03E-01	1.37E-01	3.02E 00		
30 7.80 0.	1.20E 00	0.	0.	0.	0.	0.	1.50E 00	7.89E-03	2.03E-01	1.38E-01	3.05E 00		
31 7.70 0.	1.02E 00	0.	0.	0.	0.	0.	1.51E 00	8.20E-03	2.04E-01	1.39E-01	2.88E 00		
32 7.60 0.	9.46E-01	0.	0.	5.42E-05	0.	0.	1.52E 00	8.53E-03	2.04E-01	1.39E-01	2.82E 00		
33 7.50 0.	8.52E-01	0.	0.	2.26E-04	0.	0.	1.53E 00	8.88E-03	2.05E-01	1.40E-01	2.73E 00		
34 7.40 0.	7.48E-01	0.	0.	1.47E-03	0.	0.	1.54E 00	9.24E-03	2.05E-01	1.41E-01	2.64E 00		
35 7.30 0.	6.91E-01	0.	0.	6.64E-03	0.	0.	1.54E 00	9.63E-03	2.06E-01	1.41E-01	2.60E 00		
36 7.20 0.	6.08E-01	0.	0.	1.77E-02	0.	0.	1.55E 00	1.00E-02	2.06E-01	1.42E-01	2.54E 00		
37 7.10 0.	5.71E-01	0.	0.	5.17E-02	0.	0.	1.57E 00	1.05E-02	2.07E-01	1.43E-01	2.55E 00		
38 7.00 1.55E-04	5.10E-01	0.	0.	1.19E-01	0.	0.	1.58E 00	1.09E-02	2.08E-01	1.43E-01	2.57E 00		
39 6.90 2.95E-04	4.56E-01	0.	0.	1.41E-01	0.	0.	1.59E 00	1.14E-02	2.08E-01	1.44E-01	2.55E 00		
40 6.80 2.52E-04	4.27E-01	0.	0.	2.73E-01	0.	0.	1.60E 00	1.19E-02	2.09E-01	1.44E-01	2.67E 00		
41 6.70 1.8CE-04	3.64E-01	0.	0.	2.98E-01	0.	0.	1.62E 00	1.25E-02	2.09E-01	1.45E-01	2.67E 00		
42 6.60 1.01E-04	3.17E-01	0.	0.	2.09E-01	0.	0.	1.63E 00	1.31E-02	2.11E-01	1.46E-01	2.67E 00		
43 6.50 6.12E-05	2.44E-01	0.	0.	3.43E-01	0.	0.	1.64E 00	1.37E-02	2.12E-01	1.47E-01	2.60E 00		
44 6.40 3.41E-05	1.61E-01	0.	0.	1.54E-03	0.	0.	1.66E 00	1.43E-02	2.14E-01	1.48E-01	2.55E 00		
45 6.30 1.93E-05	9.54E-02	0.	0.	7.01E-03	0.	0.	1.67E 00	1.50E-02	2.15E-01	1.50E-01	2.37E 00		
46 6.20 8.51E-06	5.04E-02	0.	0.	9.65E-03	0.	0.	1.68E 00	1.58E-02	2.17E-01	1.52E-01	2.44E 00		
47 6.10 3.81E-06	2.27E-02	0.	0.	2.70E-02	0.	0.	1.69E 00	1.66E-02	2.19E-01	1.54E-01	2.56E 00		
48 6.00 1.55E-06	5.60E-03	0.	0.	2.45E-02	0.	0.	1.71E 00	1.74E-02	2.22E-01	1.56E-01	2.32E 00		
49 5.90 3.75E-07	4.00E-04	0.	0.	3.53E-02	0.	0.	1.71E 00	1.83E-02	2.24E-01	1.58E-01	2.33E 00		
50 5.80 4.76E-08	9.97E-06	0.	0.	4.85E-02	0.	0.	1.68E 00	1.93E-02	2.27E-01	1.60E-01	2.32E 00		
51 5.70 3.55E-09	0.	0.	0.	5.45E-02	0.	0.	1.58E 00	2.03E-02	2.30E-01	1.62E-01	2.25E 00		

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 13000.				DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)								
PHOTON Q2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	VIB-ROT	NO	PHOTO-DET (IONS)	N P.E.	0 P.E.	TOTAL AIR	
52	5.60	1.56E-10	0.	0.	4.43E-02	2.92E-01	0.	1.47E 00	2.14E-02	2.33E-01	1.64E-01	2.22E 00
53	5.50	0.	0.	0.	5.41E-02	2.74E-01	0.	1.48E 00	2.26E-02	2.37E-01	1.66E-01	2.23E 00
54	5.40	0.	0.	0.	4.79E-02	2.06E-01	0.	1.48E 00	2.39E-02	2.43E-01	1.68E-01	2.17E 00
55	5.30	0.	0.	0.	4.92E-02	2.76E-01	0.	1.49E 00	2.53E-02	2.48E-01	1.71E-01	2.26E 00
56	5.20	0.	0.	0.	5.21E-02	1.86E-01	0.	1.50E 00	2.68E-02	2.53E-01	1.75E-01	2.20E 00
57	5.10	0.	0.	0.	5.14E-02	2.45E-01	0.	1.52E 00	2.84E-02	2.60E-01	1.78E-01	2.28E 00
58	5.00	2.01E-03	0.	0.	4.62E-02	2.21E-01	0.	1.53E 00	3.02E-02	2.68E-01	1.82E-01	2.28E 00
59	4.90	4.73E-03	0.	0.	5.07E-02	2.33E-01	0.	1.54E 00	3.21E-02	2.76E-01	1.85E-01	2.32E 00
60	4.80	8.58E-03	0.	0.	5.39E-02	2.16E-01	0.	1.55E 00	3.42E-02	2.85E-01	1.89E-01	2.34E 00
61	4.70	1.12E-02	0.	0.	5.27E-02	1.92E-01	0.	1.57E 00	3.64E-02	2.94E-01	1.94E-01	2.35E 00
62	4.60	1.50E-02	0.	0.	5.34E-02	1.76E-01	0.	1.58E 00	3.88E-02	3.05E-01	1.99E-01	2.37E 00
63	4.50	1.54E-02	0.	0.	4.76E-02	1.30E-01	0.	1.59E 00	4.15E-02	3.18E-01	2.04E-01	2.38E 00
64	4.40	1.61E-02	0.	0.	4.72E-02	9.18E-02	0.	1.60E 00	4.44E-02	3.31E-01	2.09E-01	2.44E 00
65	4.30	1.47E-02	0.	0.	4.39E-02	5.53E-02	0.	1.62E 00	4.76E-02	3.46E-01	2.14E-01	2.60E 00
66	4.20	1.35E-02	0.	0.	4.59E-02	4.10E-02	0.	1.63E 00	5.11E-02	3.60E-01	2.19E-01	3.31E 00
67	4.10	1.24E-02	0.	0.	4.38E-02	1.10E-02	0.	1.64E 00	5.49E-02	3.75E-01	2.23E-01	2.71E 00
68	4.00	1.12E-02	0.	0.	4.15E-02	8.39E-03	0.	1.64E 00	5.92E-02	3.89E-01	6.19E-02	3.56E 00
69	3.90	9.31E-03	0.	0.	3.70E-02	3.38E-03	0.	1.64E 00	6.39E-02	3.56E-01	6.38E-02	2.80E 00
70	3.80	1.01E-02	0.	0.	3.22E-02	0.	0.	1.63E 00	6.91E-02	3.65E-01	6.61E-02	3.20E 00
71	3.70	8.66E-03	0.	0.	3.04E-02	0.	0.	1.60E 00	7.49E-02	3.88E-01	7.32E-02	3.17E 00
72	3.60	7.67E-03	0.	0.	6.58E-01	1.80E-01	0.	1.50E 00	8.14E-02	3.12E-01	8.14E-02	2.86E 00
73	3.50	7.00E-03	0.	0.	9.27E-01	4.28E-01	0.	1.38E 00	8.87E-02	3.21E-01	9.02E-02	3.26E 00
74	3.40	6.24E-03	0.	0.	5.32E-01	4.68E-02	0.	7.93E-01	9.68E-02	3.60E-01	1.00E-01	1.96E 00
75	3.30	4.91E-03	0.	0.	5.55E-01	2.13E-01	0.	7.95E-01	1.06E-01	3.99E-01	1.10E-01	2.21E 00
76	3.20	4.17E-03	0.	0.	3.43E-01	4.32E-01	0.	7.96E-01	1.16E-01	4.38E-01	1.21E-01	2.27E 00
77	3.10	3.90E-03	0.	0.	2.63E-01	7.34E-02	0.	7.98E-01	1.28E-01	4.79E-01	1.31E-01	1.90E 00
78	3.00	3.40E-03	0.	0.	1.56E-01	2.08E-01	0.	8.00E-01	1.41E-01	5.20E-01	1.42E-01	1.99E 00
79	2.90	2.77E-03	0.	0.	9.52E-02	1.23E-01	0.	8.01E-01	1.57E-01	5.62E-01	1.53E-01	1.91E 00
80	2.80	2.81E-03	0.	0.	4.55E-02	6.22E-02	0.	8.02E-01	1.74E-01	6.10E-01	1.65E-01	1.87E 00
81	2.70	1.75E-03	0.	0.	2.10E-02	1.00E-01	0.	8.02E-01	1.95E-01	6.60E-01	1.78E-01	1.96E 00
82	2.60	7.82E-04	0.	0.	1.05E-02	9.54E-03	0.	8.02E-01	2.18E-01	7.15E-01	1.91E-01	1.95E 00
83	2.50	5.37E-05	0.	0.	1.22E-03	8.51E-03	0.	8.02E-01	2.46E-01	8.10E-01	9.43E-02	1.96E 00
84	2.40	0.	6.21E-02	0.	7.95E-03	4.91E-05	0.	8.02E-01	2.78E-01	9.41E-01	1.14E-01	2.21E 00
85	2.30	0.	2.25E-01	0.	0.	0.	0.	7.96E-01	3.16E-01	7.19E-01	1.36E-01	2.19E 00
86	2.20	0.	5.37E-01	0.	0.	0.	0.	7.93E-01	3.62E-01	8.50E-01	1.64E-01	2.71E 00
87	2.10	0.	6.38E-01	0.	0.	0.	0.	7.90E-01	4.17E-01	9.89E-01	1.92E-01	3.03E 00
88	2.00	0.	1.17E 00	0.	0.	0.	0.	7.64E-01	4.83E-01	1.13E 00	2.20E-01	3.77E 00
89	1.90	0.	1.78E 00	0.	0.	0.	0.	7.35E-01	5.65E-01	1.28E 00	2.51E-01	4.61E 00
90	1.80	0.	1.46E 00	0.	0.	0.	0.	7.03E-01	6.66E-01	1.52E 00	3.02E-01	4.66E 00
91	1.70	0.	1.74E 00	0.	0.	0.	0.	6.62E-01	7.92E-01	1.82E 00	3.65E-01	5.37E 00
92	1.60	0.	1.25E 00	0.	0.	0.	0.	5.60E-01	9.53E-01	2.12E 00	4.29E-01	5.31E 00
93	1.50	0.	1.49E 00	0.	0.	0.	0.	2.55E-01	1.16E 00	2.67E 00	5.19E-01	6.12E 00
94	1.40	0.	1.51E 00	0.	0.	0.	0.	0.	1.43E 00	3.31E 00	6.12E-01	6.86E 00
95	1.30	0.	1.15E 00	0.	0.	0.	0.	0.	1.79E 00	4.22E 00	6.06E-01	7.97E 00
96	1.20	0.	1.11E 00	0.	0.	0.	0.	0.	2.29E 00	4.32E 00	7.89E-01	8.51E 00
97	1.10	0.	1.00E 00	0.	0.	0.	0.	0.	2.99E 00	5.33E 00	9.91E-01	1.03E 01
98	1.00	0.	9.20E-01	0.	0.	0.	0.	0.	4.02E 00	6.44E 00	1.11E 00	1.25E 01
99	0.90	0.	7.54E-01	0.	0.	0.	0.	0.	5.56E 00	7.34E 00	1.31E 00	1.50E 01
100	0.80	0.	3.55E-01	0.	0.	0.	0.	0.	7.94E 00	8.44E 00	1.50E 00	1.82E 01
101	0.70	0.	8.78E-02	0.	0.	0.	0.	0.	1.19E 01	9.27E 00	1.63E 00	2.29E 01
102	0.60	0.	1.02E-02	0.	0.	0.	0.	0.	1.92E 01	1.03E 01	1.83E 00	3.13E 01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENRGY		02 S-R	02 C-K	N2 R-H	TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-03		1.10E 00		NORMAL		
E.V.		PANDS	CONT.	NO. 1	NO	BETA	NO	GAMMA	NO	2	PHOTO-DET	FREE	N	P.E.	TOTAL AIR
1	15.70	0.	0.	1.99E-01	0.	0.	0.	0.	0.	0.	4.48E-02	2.93E-04	1.55E 01	1.47E-02	1.58E 01
2	16.60	0.	0.	1.76E-01	0.	0.	0.	0.	0.	0.	4.48E-02	3.01E-04	7.79E-02	1.47E-02	3.14E-01
3	16.50	0.	0.	1.75E-01	0.	0.	0.	0.	0.	0.	4.49E-02	3.10E-04	7.79E-02	1.46E-02	3.13E-01
4	16.40	0.	0.	1.62E-01	0.	0.	0.	0.	0.	0.	4.50E-02	3.19E-04	7.82E-02	1.46E-02	3.00E-01
5	16.30	0.	0.	1.38E-01	0.	0.	0.	0.	0.	0.	4.50E-02	3.28E-04	7.84E-02	1.45E-02	2.76E-01
6	16.20	0.	0.	1.40E-01	0.	0.	0.	0.	0.	0.	4.51E-02	3.38E-04	7.86E-02	1.45E-02	2.78E-01
7	16.10	0.	0.	1.29E-01	0.	0.	0.	0.	0.	0.	4.51E-02	3.48E-04	7.87E-02	1.45E-02	2.68E-01
8	16.00	0.	0.	1.10E-01	0.	0.	0.	0.	0.	0.	4.52E-02	3.59E-04	7.89E-02	1.44E-02	2.49E-01
9	9.90	0.	0.	1.12E-01	0.	0.	0.	0.	0.	0.	4.53E-02	3.70E-04	7.91E-02	1.44E-02	2.51E-01
10	9.80	0.	0.	1.02E-01	0.	0.	0.	0.	0.	0.	4.54E-02	3.82E-04	7.93E-02	1.44E-02	2.42E-01
11	9.70	0.	0.	8.56E-02	0.	0.	0.	0.	0.	0.	4.55E-02	3.94E-04	7.95E-02	1.43E-02	2.25E-01
12	9.60	0.	0.	9.21E-02	0.	0.	0.	0.	0.	0.	4.56E-02	4.06E-04	7.97E-02	1.43E-02	2.32E-01
13	9.50	0.	0.	7.61E-02	0.	0.	0.	0.	0.	0.	4.56E-02	4.19E-04	7.99E-02	1.43E-02	2.16E-01
14	9.40	0.	0.	7.01E-02	0.	0.	0.	0.	0.	0.	4.58E-02	4.33E-04	8.02E-02	1.42E-02	2.11E-01
15	9.30	0.	0.	7.13E-02	0.	0.	0.	0.	0.	0.	4.60E-02	4.47E-04	8.04E-02	1.42E-02	2.12E-01
16	9.20	0.	0.	5.65E-02	0.	0.	0.	0.	0.	0.	4.61E-02	4.61E-04	8.06E-02	1.42E-02	1.98E-01
17	9.10	0.	0.	5.78E-02	0.	0.	0.	0.	0.	0.	4.63E-02	4.77E-04	8.09E-02	1.41E-02	1.44E-01
18	9.00	0.	0.	5.11E-02	0.	0.	0.	0.	0.	0.	4.64E-02	4.93E-04	8.12E-02	1.41E-02	1.37E-01
19	8.90	0.	0.	4.60E-02	0.	0.	0.	0.	0.	0.	4.66E-02	5.10E-04	8.15E-02	1.41E-02	1.32E-01
20	8.80	0.	0.	4.46E-02	0.	0.	0.	0.	0.	0.	4.68E-02	5.28E-04	8.18E-02	1.40E-02	1.31E-01
21	8.70	0.	0.	3.74E-02	0.	0.	0.	0.	0.	0.	4.69E-02	5.46E-04	8.21E-02	1.40E-02	1.24E-01
22	8.60	0.	0.	3.82E-02	0.	0.	0.	0.	0.	0.	4.71E-02	5.65E-04	8.24E-02	1.40E-02	1.25E-01
23	8.50	0.	0.	3.23E-02	0.	0.	0.	0.	0.	0.	4.73E-02	5.86E-04	8.27E-02	1.39E-02	1.19E-01
24	8.40	0.	0.	3.16E-02	0.	0.	0.	0.	0.	0.	4.75E-02	6.07E-04	8.30E-02	1.39E-02	1.19E-01
25	8.30	0.	0.	2.59E-02	0.	0.	0.	0.	0.	0.	4.78E-02	6.29E-04	8.33E-02	1.39E-02	1.13E-01
26	8.20	0.	0.	2.59E-02	0.	0.	0.	0.	0.	0.	4.80E-02	6.52E-04	8.36E-02	1.40E-02	1.13E-01
27	8.10	0.	0.	2.16E-02	0.	0.	0.	0.	0.	0.	4.83E-02	6.77E-04	8.39E-02	1.40E-02	1.10E-01
28	8.00	0.	0.	2.14E-02	0.	0.	0.	0.	0.	0.	4.85E-02	7.03E-04	8.42E-02	1.41E-02	1.10E-01
29	7.90	0.	0.	1.79E-02	0.	0.	0.	0.	0.	0.	4.88E-02	7.30E-04	8.45E-02	1.42E-02	1.07E-01
30	7.80	0.	0.	1.82E-02	0.	0.	0.	0.	0.	0.	4.90E-02	7.58E-04	8.48E-02	1.43E-02	1.07E-01
31	7.70	0.	0.	1.55E-02	0.	0.	0.	0.	0.	0.	4.93E-02	7.88E-04	8.51E-02	1.43E-02	1.05E-01
32	7.60	0.	0.	1.44E-02	0.	0.	0.	6.93E-07	0.	0.	4.95E-02	8.20E-04	8.54E-02	1.44E-02	1.04E-01
33	7.50	0.	0.	1.30E-02	0.	0.	0.	2.88E-06	0.	0.	4.98E-02	8.53E-04	8.57E-02	1.45E-02	1.03E-01
34	7.40	0.	0.	1.14E-02	0.	0.	0.	1.88E-05	0.	0.	5.00E-02	8.88E-04	8.60E-02	1.46E-02	1.02E-01
35	7.30	0.	0.	1.05E-02	0.	0.	0.	8.49E-05	0.	0.	5.03E-02	9.25E-04	8.63E-02	1.46E-02	1.02E-01
36	7.20	0.	0.	9.28E-03	0.	0.	0.	2.26E-04	0.	0.	5.06E-02	9.65E-04	8.66E-02	1.47E-02	1.01E-01
37	7.10	0.	0.	8.71E-03	0.	0.	0.	6.61E-04	0.	0.	5.10E-02	1.01E-03	8.69E-02	1.48E-02	1.02E-01
38	7.00	1.66E-06	0.	7.78E-03	0.	0.	0.	1.53E-03	0.	0.	5.14E-02	1.05E-03	8.72E-02	1.48E-02	1.02E-01
39	6.90	3.1E-06	0.	6.96E-03	0.	0.	0.	1.80E-03	0.	0.	5.18E-02	1.10E-03	8.75E-02	1.49E-02	1.02E-01
40	6.80	2.7E-06	0.	6.52E-03	0.	0.	0.	3.48E-03	0.	0.	5.23E-02	1.15E-03	8.78E-02	1.50E-02	1.04E-01
41	6.70	1.93E-06	0.	5.55E-03	0.	0.	0.	3.81E-03	0.	0.	5.27E-02	1.20E-03	8.81E-02	1.51E-02	1.04E-01
42	6.60	1.16E-06	0.	4.84E-03	0.	0.	0.	2.67E-03	0.	0.	5.31E-02	1.25E-03	8.84E-02	1.52E-02	1.03E-01
43	6.50	6.55E-07	0.	3.72E-03	0.	0.	0.	4.39E-03	0.	0.	5.35E-02	1.31E-03	8.87E-02	1.53E-02	1.04E-01
44	6.40	3.6E-07	0.	2.45E-03	0.	0.	0.	4.56E-03	0.	0.	5.39E-02	1.38E-03	8.90E-02	1.54E-02	1.04E-01
45	6.30	2.07E-07	0.	1.45E-03	0.	0.	0.	2.75E-03	0.	0.	5.43E-02	1.44E-03	8.93E-02	1.55E-02	1.02E-01
46	6.20	9.1E-08	0.	7.69E-04	0.	0.	0.	4.01E-03	0.	0.	5.47E-02	1.51E-03	8.96E-02	1.57E-02	1.04E-01
47	6.10	4.0E-08	0.	3.46E-04	0.	0.	0.	5.47E-03	0.	0.	5.52E-02	1.59E-03	8.99E-02	1.59E-02	1.06E-01
48	6.00	1.6E-08	0.	8.54E-05	0.	0.	0.	3.13E-04	0.	0.	5.56E-02	1.67E-03	9.02E-02	1.61E-02	1.04E-01
49	5.90	4.02E-09	0.	6.10E-06	0.	0.	0.	4.52E-04	0.	0.	5.56E-02	1.76E-03	9.05E-02	1.63E-02	1.04E-01
50	5.80	5.1E-10	0.	1.52E-07	0.	0.	0.	6.20E-04	0.	0.	5.47E-02	1.85E-03	9.08E-02	1.65E-02	1.04E-01
51	5.70	3.75E-11	0.	0.	0.	0.	0.	7.01E-04	0.	0.	5.14E-02	1.95E-03	9.11E-02	1.67E-02	1.02E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 13000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NU BETA	NO GAMMA	NO WEB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52 3.60 1.61E-12	0.	0.	0.	5.66E-04	3.74E-03	0.	0.	4.78E-02	2.06E-03	2.88E-02	1.69E-02	9.99E-02
53 5.50 0.	0.	0.	0.	6.91E-04	3.50E-03	0.	0.	4.81E-02	2.18E-03	2.93E-02	1.72E-02	1.01E-01
54 5.40 0.	0.	0.	0.	6.12E-04	2.63E-03	0.	0.	4.83E-02	2.30E-03	3.00E-02	1.74E-02	1.01E-01
55 5.30 0.	0.	0.	0.	6.28E-04	3.52E-03	0.	0.	4.86E-02	2.43E-03	3.04E-02	1.77E-02	1.04E-01
56 5.20 0.	0.	0.	0.	6.65E-04	2.37E-03	0.	0.	4.89E-02	2.58E-03	3.13E-02	1.81E-02	1.04E-01
57 5.10 0.	0.	0.	0.	6.57E-04	3.13E-03	0.	0.	4.94E-02	2.73E-03	3.22E-02	1.85E-02	1.06E-01
58 4.90 2.15E-05	0.	0.	0.	5.91E-04	2.82E-03	0.	0.	4.98E-02	2.90E-03	3.31E-02	1.88E-02	1.08E-01
59 4.90 5.07E-05	0.	0.	0.	6.47E-04	2.98E-03	0.	0.	5.02E-02	3.08E-03	3.41E-02	1.92E-02	1.10E-01
60 4.80 9.19E-05	0.	0.	0.	6.88E-04	2.76E-03	0.	0.	5.06E-02	3.28E-03	3.52E-02	1.96E-02	1.12E-01
61 4.70 1.21E-04	0.	0.	0.	6.73E-04	2.45E-03	0.	0.	5.10E-02	3.50E-03	3.63E-02	2.01E-02	1.14E-01
62 4.60 1.61E-04	0.	0.	0.	6.82E-04	2.24E-03	0.	0.	5.14E-02	3.73E-03	3.76E-02	2.06E-02	1.16E-01
63 4.50 1.65E-04	0.	4.33E-04	0.	6.08E-04	1.66E-03	0.	0.	5.18E-02	3.99E-03	3.93E-02	2.11E-02	1.19E-01
64 4.40 1.71E-04	0.	1.41E-03	0.	6.03E-04	1.17E-03	0.	0.	5.23E-02	4.27E-03	4.09E-02	2.16E-02	1.22E-01
65 4.30 1.56E-04	0.	4.05E-03	0.	5.61E-04	7.07E-04	0.	0.	5.27E-02	4.57E-03	4.27E-02	2.22E-02	1.28E-01
66 4.20 1.45E-04	0.	1.44E-02	0.	5.87E-04	5.24E-04	0.	0.	5.31E-02	4.91E-03	4.45E-02	2.27E-02	1.41E-01
67 4.10 1.35E-04	0.	5.41E-03	0.	5.60E-04	1.40E-04	0.	0.	5.35E-02	5.28E-03	4.63E-02	2.30E-02	1.34E-01
68 4.00 1.20E-04	0.	2.05E-02	0.	5.30E-04	1.07E-04	0.	0.	5.39E-02	5.69E-03	4.81E-02	2.30E-02	1.35E-01
69 3.90 9.97E-05	0.	9.26E-03	8.75E-04	4.73E-04	4.32E-05	0.	0.	5.33E-02	6.14E-03	4.40E-02	2.30E-02	1.21E-01
70 3.80 1.08E-04	0.	1.42E-02	4.64E-03	5.04E-04	0.	0.	0.	5.31E-02	6.64E-03	4.50E-02	2.30E-02	1.31E-01
71 3.70 9.28E-05	0.	1.62E-02	1.47E-03	4.11E-04	0.	0.	0.	5.23E-02	7.20E-03	3.56E-02	2.30E-02	1.21E-01
72 3.60 8.21E-05	0.	1.00E-02	8.72E-03	4.46E-04	0.	0.	0.	4.89E-02	7.82E-03	3.85E-02	2.30E-02	1.23E-01
73 3.50 7.50E-05	0.	1.41E-02	2.07E-02	3.37E-04	0.	0.	0.	4.48E-02	8.52E-03	3.96E-02	2.30E-02	1.38E-01
74 3.40 6.68E-05	0.	8.11E-03	2.27E-03	3.76E-04	0.	0.	0.	2.58E-02	9.30E-03	4.44E-02	2.30E-02	1.01E-01
75 3.30 5.26E-05	0.	8.47E-03	1.04E-02	2.90E-04	0.	0.	0.	2.59E-02	1.02E-02	4.93E-02	2.30E-02	1.16E-01
76 3.20 4.46E-05	0.	5.24E-03	2.09E-02	3.00E-04	0.	0.	0.	2.60E-02	1.12E-02	5.92E-02	2.30E-02	1.30E-01
77 3.10 4.18E-05	0.	4.02E-03	3.56E-03	2.76E-04	0.	0.	0.	2.60E-02	1.23E-02	5.92E-02	2.30E-02	1.19E-01
78 3.00 3.64E-05	0.	2.38E-03	1.01E-02	2.53E-04	0.	0.	0.	2.60E-02	1.36E-02	6.42E-02	2.30E-02	1.31E-01
79 2.90 2.97E-05	0.	1.45E-03	5.95E-03	1.84E-04	0.	0.	0.	2.61E-02	1.51E-02	6.94E-02	2.30E-02	1.34E-01
80 2.80 3.03E-05	0.	6.94E-04	3.02E-03	1.21E-04	0.	0.	0.	2.61E-02	1.67E-02	7.53E-02	2.30E-02	1.39E-01
81 2.70 1.87E-05	0.	3.21E-04	4.86E-03	6.23E-05	0.	0.	0.	2.61E-02	1.87E-02	8.16E-02	2.30E-02	1.50E-01
82 2.60 8.37E-06	0.	1.61E-04	4.63E-04	2.61E-05	0.	0.	0.	2.61E-02	2.10E-02	8.84E-02	2.30E-02	1.56E-01
83 2.50 5.75E-07	0.	1.85E-05	4.12E-04	6.03E-06	0.	0.	0.	2.61E-02	2.36E-02	1.00E-01	2.30E-02	1.60E-01
84 2.40 0.	9.47E-04	0.	3.86E-04	6.27E-07	0.	0.	0.	2.61E-02	2.67E-02	1.16E-01	2.30E-02	1.82E-01
85 2.30 0.	3.43E-03	0.	0.	0.	0.	0.	0.	2.59E-02	3.04E-02	8.88E-02	2.30E-02	1.63E-01
86 2.20 0.	8.19E-03	0.	0.	0.	0.	0.	0.	2.58E-02	3.48E-02	1.05E-01	2.30E-02	1.91E-01
87 2.10 0.	9.73E-03	0.	0.	0.	0.	0.	0.	2.57E-02	4.00E-02	1.22E-01	2.30E-02	2.14E-01
88 2.00 0.	1.78E-02	0.	0.	0.	0.	0.	0.	2.49E-02	4.64E-02	1.40E-01	2.30E-02	2.51E-01
89 1.90 0.	2.71E-02	0.	0.	0.	0.	0.	0.	2.39E-02	5.43E-02	1.58E-01	2.30E-02	2.90E-01
90 1.80 0.	2.23E-02	0.	0.	0.	0.	0.	0.	2.29E-02	6.40E-02	1.88E-01	2.30E-02	3.29E-01
91 1.70 0.	2.65E-02	0.	0.	0.	0.	0.	0.	2.16E-02	7.61E-02	2.25E-01	2.30E-02	3.87E-01
92 1.60 0.	1.91E-02	0.	0.	0.	0.	0.	0.	1.82E-02	9.15E-02	2.61E-01	2.30E-02	4.35E-01
93 1.50 0.	2.28E-02	0.	0.	0.	0.	0.	0.	8.29E-03	1.11E-01	3.32E-01	2.30E-02	5.29E-01
94 1.40 0.	2.30E-02	0.	0.	0.	0.	0.	0.	0.	1.38E-01	4.09E-01	6.34E-02	6.33E-01
95 1.30 0.	1.75E-02	0.	0.	0.	0.	0.	0.	0.	1.72E-01	5.22E-01	8.34E-02	7.95E-01
96 1.20 0.	1.70E-02	0.	0.	0.	0.	0.	0.	0.	2.20E-01	5.33E-01	8.16E-02	8.52E-01
97 1.10 0.	1.53E-02	0.	0.	0.	0.	0.	0.	0.	2.87E-01	6.58E-01	1.03E-01	1.06E 00
98 1.00 0.	1.40E-02	0.	0.	0.	0.	0.	0.	0.	3.86E-01	7.96E-01	1.15E-01	1.31E 00
99 0.90 0.	1.15E-02	0.	0.	0.	0.	0.	0.	0.	5.34E-01	9.07E-01	1.35E-01	1.59E 00
100 0.80 0.	5.41E-03	0.	0.	0.	0.	0.	0.	0.	7.63E-01	1.04E 00	1.56E-01	1.77E 00
101 0.70 0.	1.34E-03	0.	0.	0.	0.	0.	0.	0.	1.14E 00	1.14E 00	1.69E-01	2.46E 00
102 0.60 0.	1.56E-04	0.	0.	0.	0.	0.	0.	0.	1.84E 00	1.28E 00	1.89E-01	3.31E 00

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE C.M.)

PHOTON ID 2 S-R		02 S-M	TEMPERATURE	DEGREES K	1300C.	DENSITY	(GM/CC)	1.293E-04	( 1.0E-01 NORMAL)	0-	FREE-FREE	N	0	TOTAL AIR
ENERGY BANDS		CONT.	NO. 1	NU	NU	NU	NU	NU	NU	PHOTO-DET (IONS)	P.E.	P.E.	P.E.	P.E.
E.V.				RETA	GAMMA									
1	1C.70	0.	1.91E-03	0.	0.	0.	0.	0.	0.	1.35E-03	2.78E-05	1.52E 00	1.43E-03	1.53E 00
2	1C.60	0.	1.69E-03	0.	0.	0.	0.	0.	0.	1.35E-03	2.86E-05	7.60E-03	1.43E-03	1.21E-02
3	1U.50	0.	1.69E-03	0.	0.	0.	0.	0.	0.	1.35E-03	2.94E-05	7.63E-03	1.43E-03	1.21E-02
4	1U.40	0.	1.56E-03	0.	0.	0.	0.	0.	0.	1.35E-03	3.03E-05	7.66E-03	1.42E-03	1.20E-02
5	1U.30	0.	1.32E-03	0.	0.	0.	0.	0.	0.	1.36E-03	3.12E-05	7.68E-03	1.42E-03	1.18E-02
6	1U.20	0.	1.34E-03	0.	0.	0.	0.	0.	0.	1.36E-03	3.21E-05	7.70E-03	1.42E-03	1.18E-02
7	1U.10	0.	1.24E-03	0.	0.	0.	0.	0.	0.	1.36E-03	3.31E-05	7.71E-03	1.41E-03	1.18E-02
8	1U.00	0.	1.05E-03	0.	0.	0.	0.	0.	0.	1.36E-03	3.41E-05	7.73E-03	1.41E-03	1.16E-02
9	9.90	0.	1.07E-03	0.	0.	0.	0.	0.	0.	1.36E-03	3.52E-05	7.75E-03	1.41E-03	1.16E-02
10	9.80	0.	9.83E-04	0.	0.	0.	0.	0.	0.	1.37E-03	3.62E-05	7.77E-03	1.40E-03	1.16E-02
11	9.70	0.	8.22E-04	0.	0.	0.	0.	0.	0.	1.37E-03	3.74E-05	7.79E-03	1.40E-03	1.14E-02
12	9.60	0.	8.85E-04	0.	0.	0.	0.	0.	0.	1.37E-03	3.86E-05	7.81E-03	1.39E-03	1.15E-02
13	9.50	0.	7.31E-04	0.	0.	0.	0.	0.	0.	1.37E-03	3.98E-05	7.83E-03	1.39E-03	1.14E-02
14	9.40	0.	6.73E-04	0.	0.	0.	0.	0.	0.	1.38E-03	4.11E-05	7.86E-03	1.39E-03	1.13E-02
15	9.30	0.	6.85E-04	0.	0.	0.	0.	0.	0.	1.38E-03	4.24E-05	7.88E-03	1.38E-03	1.14E-02
16	9.20	0.	5.43E-04	0.	0.	0.	0.	0.	0.	1.39E-03	4.38E-05	7.90E-03	1.38E-03	1.13E-02
17	9.10	0.	5.56E-04	0.	0.	0.	0.	0.	0.	1.39E-03	4.53E-05	7.94E-03	1.38E-03	1.13E-02
18	9.00	0.	4.91E-04	0.	0.	0.	0.	0.	0.	1.40E-03	4.68E-05	2.44E-03	1.37E-03	5.75E-03
19	8.90	0.	4.42E-04	0.	0.	0.	0.	0.	0.	1.40E-03	4.84E-05	2.44E-03	1.37E-03	5.71E-03
20	8.80	0.	4.29E-04	0.	0.	0.	0.	0.	0.	1.41E-03	5.01E-05	2.44E-03	1.37E-03	5.69E-03
21	8.70	0.	3.59E-04	0.	0.	0.	0.	0.	0.	1.41E-03	5.19E-05	2.44E-03	1.36E-03	5.63E-03
22	8.60	0.	3.67E-04	0.	0.	0.	0.	0.	0.	1.42E-03	5.37E-05	2.44E-03	1.36E-03	5.64E-03
23	8.50	0.	3.10E-04	0.	0.	0.	0.	0.	0.	1.42E-03	5.56E-05	2.44E-03	1.36E-03	5.59E-03
24	8.40	0.	3.04E-04	0.	0.	0.	0.	0.	0.	1.43E-03	5.77E-05	2.44E-03	1.36E-03	5.59E-03
25	8.30	0.	2.49E-04	0.	0.	0.	0.	0.	0.	1.44E-03	5.98E-05	2.44E-03	1.36E-03	5.54E-03
26	8.20	0.	2.49E-04	0.	0.	0.	0.	0.	0.	1.45E-03	6.20E-05	2.44E-03	1.36E-03	5.56E-03
27	8.10	0.	2.08E-04	0.	0.	0.	0.	0.	0.	1.45E-03	6.43E-05	2.44E-03	1.37E-03	5.54E-03
28	8.00	0.	2.06E-04	0.	0.	0.	0.	0.	0.	1.45E-03	6.68E-05	2.44E-03	1.38E-03	5.56E-03
29	7.90	0.	1.72E-04	0.	0.	0.	0.	0.	0.	1.47E-03	6.93E-05	2.45E-03	1.38E-03	5.55E-03
30	7.80	0.	1.75E-04	0.	0.	0.	0.	0.	0.	1.48E-03	7.20E-05	2.46E-03	1.39E-03	5.57E-03
31	7.70	0.	1.49E-04	0.	0.	0.	0.	0.	0.	1.48E-03	7.49E-05	2.47E-03	1.40E-03	5.57E-03
32	7.60	0.	1.39E-04	0.	0.	0.	0.	0.	0.	1.49E-03	7.79E-05	2.47E-03	1.41E-03	5.58E-03
33	7.50	0.	1.25E-04	0.	0.	0.	0.	0.	0.	1.50E-03	8.11E-05	2.48E-03	1.41E-03	5.60E-03
34	7.40	0.	1.10E-04	0.	0.	0.	0.	0.	0.	1.51E-03	8.44E-05	2.49E-03	1.42E-03	5.61E-03
35	7.30	0.	1.01E-04	0.	0.	0.	0.	0.	0.	1.51E-03	8.79E-05	2.49E-03	1.43E-03	5.62E-03
36	7.20	0.	8.91E-05	0.	0.	0.	0.	0.	0.	1.52E-03	9.17E-05	2.50E-03	1.43E-03	5.64E-03
37	7.10	0.	8.37E-05	0.	0.	0.	0.	0.	0.	1.54E-03	9.56E-05	2.51E-03	1.44E-03	5.67E-03
38	7.00	1.58E-08	7.48E-05	0.	0.	0.	0.	0.	0.	1.55E-03	9.98E-05	2.51E-03	1.45E-03	5.70E-03
39	6.90	3.03E-08	6.69E-05	0.	0.	0.	0.	0.	0.	1.56E-03	1.04E-04	2.52E-03	1.45E-03	5.72E-03
40	6.80	2.57E-08	6.27E-05	0.	0.	0.	0.	0.	0.	1.57E-03	1.09E-04	2.53E-03	1.46E-03	5.77E-03
41	6.70	1.84E-08	5.34E-05	0.	0.	0.	0.	0.	0.	1.59E-03	1.14E-04	2.53E-03	1.47E-03	5.79E-03
42	6.60	1.10E-08	4.65E-05	0.	0.	0.	0.	0.	0.	1.60E-03	1.19E-04	2.55E-03	1.48E-03	5.82E-03
43	6.50	6.23E-09	3.58E-05	0.	0.	0.	0.	0.	0.	1.61E-03	1.25E-04	2.57E-03	1.49E-03	5.87E-03
44	6.40	3.48E-09	2.36E-05	0.	0.	0.	0.	0.	0.	1.62E-03	1.31E-04	2.59E-03	1.50E-03	5.91E-03
45	6.30	1.97E-09	1.40E-05	0.	0.	0.	0.	0.	0.	1.64E-03	1.37E-04	2.61E-03	1.51E-03	5.93E-03
46	6.20	8.68E-10	7.39E-06	0.	0.	0.	0.	0.	0.	1.65E-03	1.44E-04	2.63E-03	1.53E-03	6.00E-03
47	6.10	3.88E-10	3.30E-06	0.	0.	0.	0.	0.	0.	1.66E-03	1.51E-04	2.65E-03	1.55E-03	6.07E-03
48	6.00	1.58E-10	8.20E-07	0.	0.	0.	0.	0.	0.	1.67E-03	1.59E-04	2.68E-03	1.57E-03	6.11E-03
49	5.90	3.82E-11	5.86E-08	0.	0.	0.	0.	0.	0.	1.67E-03	1.67E-04	2.72E-03	1.59E-03	6.18E-03
50	5.80	4.85E-12	1.46E-09	0.	0.	0.	0.	0.	0.	1.65E-03	1.76E-04	2.75E-03	1.61E-03	6.21E-03
51	5.70	3.55E-13	0.	0.	0.	0.	0.	0.	0.	1.55E-03	1.86E-04	2.78E-03	1.63E-03	6.18E-03



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		13000.	DENSITY (GM/CC)		1.293E-05	(10.0E-03 NORMAL)		FREE-FREE		N	P.E.		TOTAL AIR						
PHOTO: C2 S-R		O2 S-R	CONT.	NO		NO	2	PHOTO-DET (IONS)	N	P.E.	U	P.E.	TOTAL AIR						
ENERGY BANDS				BETA															
E.V.		NO. 1		GAMMA		GAMMA		GAMMA		GAMMA		GAMMA		GAMMA					
1	16.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
2	10.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
3	10.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
4	10.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
5	10.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
6	10.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
7	10.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
8	10.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
9	9.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
10	9.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
11	9.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
12	9.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
13	9.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
14	9.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
15	9.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
16	9.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
17	9.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
18	9.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
19	8.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
20	8.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
21	8.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
22	8.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
23	8.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
24	8.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
25	8.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
26	8.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
27	8.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
28	8.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
29	7.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
30	7.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
31	7.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
32	7.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
33	7.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
34	7.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
35	7.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
36	7.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
37	7.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
38	7.00	1.24E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
39	6.90	2.46E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
40	6.80	2.09E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
41	6.70	1.49E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
42	6.60	8.95E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
43	6.50	5.06E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
44	6.40	2.83E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
45	6.30	1.60E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
46	6.20	7.05E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
47	6.10	3.15E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
48	6.00	1.20E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
49	5.90	3.11E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
50	5.80	3.94E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
51	5.70	2.89E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON 02 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		FREE-FREE		TOTAL AIR					
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	BETA	GAMMA	VIB-ROT	NO	2	PHOTO-DET (IONS)	N	P.E.	0	P.E.
52 5.60 1.29E-16	0.	0.	0.	4.15E-08	2.74E-07	0.	0.	0.	3.79E-05	1.67E-05	2.40E-04	1.49E-04	4.44E-04
53 5.50 0.	0.	0.	0.	5.06E-08	2.56E-07	0.	0.	0.	3.81E-05	1.76E-05	2.44E-04	1.51E-04	4.51E-04
54 5.40 0.	0.	0.	0.	4.48E-08	1.92E-07	0.	0.	0.	3.83E-05	1.87E-05	2.49E-04	1.53E-04	4.60E-04
55 5.30 0.	0.	0.	0.	4.60E-08	2.58E-07	0.	0.	0.	3.86E-05	1.97E-05	2.55E-04	1.56E-04	4.69E-04
56 5.20 0.	0.	0.	0.	4.87E-08	1.74E-07	0.	0.	0.	3.88E-05	2.09E-05	2.60E-04	1.59E-04	4.79E-04
57 5.10 0.	0.	0.	0.	4.81E-08	2.29E-07	0.	0.	0.	3.91E-05	2.22E-05	2.68E-04	1.62E-04	4.91E-04
58 5.00 1.66E-09	0.	0.	0.	4.33E-08	2.07E-07	0.	0.	0.	3.95E-05	2.35E-05	2.76E-04	1.65E-04	5.04E-04
59 4.90 3.92E-09	0.	0.	0.	4.74E-08	2.18E-07	0.	0.	0.	3.98E-05	2.50E-05	2.84E-04	1.69E-04	5.18E-04
60 4.80 7.10E-09	0.	0.	0.	5.04E-08	2.02E-07	0.	0.	0.	4.01E-05	2.66E-05	2.93E-04	1.72E-04	5.32E-04
61 4.70 9.27E-09	0.	0.	0.	4.93E-08	1.79E-07	0.	0.	0.	4.05E-05	2.84E-05	3.02E-04	1.77E-04	5.48E-04
62 4.60 1.24E-08	0.	0.	0.	4.45E-08	1.64E-07	0.	0.	0.	4.08E-05	3.03E-05	3.13E-04	1.81E-04	5.66E-04
63 4.50 1.27E-08	0.	3.00E-08	0.	4.45E-08	1.21E-07	0.	0.	0.	4.11E-05	3.23E-05	3.27E-04	1.86E-04	5.86E-04
64 4.40 1.32E-08	0.	9.77E-08	0.	4.41E-08	8.59E-08	0.	0.	0.	4.14E-05	3.46E-05	3.41E-04	1.90E-04	6.07E-04
65 4.30 1.22E-08	0.	2.81E-07	0.	4.11E-08	5.17E-08	0.	0.	0.	4.18E-05	3.71E-05	3.55E-04	1.95E-04	6.30E-04
66 4.20 1.12E-08	0.	9.99E-07	0.	4.29E-08	3.84E-08	0.	0.	0.	4.21E-05	3.98E-05	3.70E-04	2.00E-04	6.53E-04
67 4.10 1.03E-08	0.	3.75E-07	0.	4.10E-08	1.03E-08	0.	0.	0.	4.23E-05	4.28E-05	3.85E-04	2.02E-04	6.73E-04
68 4.00 9.31E-09	0.	1.42E-06	0.	3.88E-08	7.85E-09	0.	0.	0.	4.24E-05	4.61E-05	4.00E-04	5.63E-05	5.47E-04
69 3.90 7.71E-09	0.	6.42E-07	6.72E-07	3.46E-08	3.16E-09	0.	0.	0.	4.23E-05	4.98E-05	3.66E-04	5.80E-05	5.1E-04
70 3.80 8.35E-09	0.	9.81E-07	3.57E-06	3.69E-08	0.	0.	0.	0.	4.21E-05	5.39E-05	3.75E-04	6.01E-05	5.1E-04
71 3.70 7.17E-09	0.	1.12E-06	1.13E-06	3.01E-08	0.	0.	0.	0.	4.14E-05	5.84E-05	3.96E-04	6.66E-05	5.65E-04
72 3.60 6.35E-09	0.	6.96E-07	6.70E-06	3.27E-08	0.	0.	0.	0.	3.88E-05	6.35E-05	3.20E-04	7.40E-05	5.04E-04
73 3.50 5.80E-09	0.	9.80E-07	1.59E-05	2.47E-08	0.	0.	0.	0.	3.55E-05	6.91E-05	3.30E-04	8.21E-05	5.34E-04
74 3.40 5.16E-09	0.	5.62E-07	1.74E-06	2.75E-08	0.	0.	0.	0.	2.05E-05	7.55E-05	3.70E-04	9.11E-05	5.59E-04
75 3.30 4.07E-09	0.	5.87E-07	7.95E-06	2.12E-08	0.	0.	0.	0.	2.05E-05	8.26E-05	4.10E-04	1.00E-04	6.22E-04
76 3.20 3.45E-09	0.	3.63E-07	1.61E-05	2.19E-08	0.	0.	0.	0.	2.06E-05	9.07E-05	4.51E-04	1.10E-04	6.88E-04
77 3.10 3.23E-09	0.	2.78E-07	2.74E-06	2.02E-08	0.	0.	0.	0.	2.06E-05	9.98E-05	4.93E-04	1.19E-04	7.35E-04
78 3.00 2.81E-09	0.	1.65E-07	7.75E-06	1.85E-08	0.	0.	0.	0.	2.07E-05	1.10E-04	5.34E-04	1.29E-04	8.02E-04
79 2.90 2.3E-09	0.	1.01E-07	4.57E-06	1.35E-08	0.	0.	0.	0.	2.07E-05	1.22E-04	5.78E-04	1.39E-04	8.64E-04
80 2.80 2.4E-09	0.	4.81E-08	3.32E-06	8.83E-09	0.	0.	0.	0.	2.07E-05	1.36E-04	6.27E-04	1.50E-04	9.35E-04
81 2.70 1.45E-09	0.	2.23E-08	3.73E-06	4.56E-09	0.	0.	0.	0.	2.07E-05	1.52E-04	6.79E-04	1.62E-04	1.02E-03
82 2.60 6.47E-10	0.	1.11E-08	3.55E-07	1.91E-09	0.	0.	0.	0.	2.07E-05	1.70E-04	7.36E-04	1.74E-04	1.10E-03
83 2.50 4.44E-11	0.	1.29E-09	3.17E-07	4.41E-10	0.	0.	0.	0.	2.07E-05	1.91E-04	8.33E-04	8.58E-05	1.13E-03
84 2.40 0.	6.56E-08	0.	2.96E-07	4.59E-11	0.	0.	0.	0.	2.07E-05	2.17E-04	9.68E-04	1.03E-04	1.31E-03
85 2.30 0.	2.38E-07	0.	0.	0.	0.	0.	0.	0.	2.06E-05	2.46E-04	7.39E-04	1.24E-04	1.31E-03
86 2.20 0.	5.68E-07	0.	0.	0.	0.	0.	0.	0.	2.05E-05	2.82E-04	8.74E-04	1.49E-04	1.33E-03
87 2.10 0.	6.74E-07	0.	0.	0.	0.	0.	0.	0.	2.04E-05	3.25E-04	1.02E-03	1.74E-04	1.54E-03
88 2.00 0.	1.24E-06	0.	0.	0.	0.	0.	0.	0.	1.97E-05	3.77E-04	1.16E-03	2.00E-04	1.76E-03
89 1.90 0.	1.88E-06	0.	0.	0.	0.	0.	0.	0.	1.90E-05	4.41E-04	1.32E-03	2.28E-04	2.01E-03
90 1.80 0.	1.55E-06	0.	0.	0.	0.	0.	0.	0.	1.82E-05	5.19E-04	1.57E-03	2.74E-04	2.38E-03
91 1.70 0.	1.83E-06	0.	0.	0.	0.	0.	0.	0.	1.71E-05	6.18E-04	1.87E-03	3.32E-04	2.84E-03
92 1.60 0.	1.32E-06	0.	0.	0.	0.	0.	0.	0.	1.45E-05	7.43E-04	2.18E-03	3.90E-04	3.32E-03
93 1.50 0.	1.58E-06	0.	0.	0.	0.	0.	0.	0.	6.58E-06	9.04E-04	2.77E-03	4.72E-04	4.15E-03
94 1.40 0.	1.60E-06	0.	0.	0.	0.	0.	0.	0.	0.	1.12E-03	3.40E-03	5.57E-04	5.08E-03
95 1.30 0.	1.21E-06	0.	0.	0.	0.	0.	0.	0.	0.	1.40E-03	4.34E-03	7.33E-04	6.48E-03
96 1.20 0.	1.18E-06	0.	0.	0.	0.	0.	0.	0.	0.	1.78E-03	4.44E-03	7.17E-04	6.94E-03
97 1.10 0.	1.06E-06	0.	0.	0.	0.	2.62E-12	0.	0.	0.	2.33E-03	5.48E-03	9.01E-04	8.71E-03
98 1.00 0.	9.72E-07	0.	0.	0.	0.	3.10E-11	0.	0.	0.	3.13E-03	6.63E-03	1.01E-03	1.08E-02
99 0.90 0.	7.97E-07	0.	0.	0.	0.	3.59E-11	0.	0.	0.	4.33E-03	7.55E-03	1.19E-03	1.31E-02
100 0.80 0.	3.75E-07	0.	0.	0.	0.	7.17E-10	0.	0.	0.	6.19E-03	8.68E-03	1.37E-03	1.62E-02
101 0.70 0.	9.28E-08	0.	0.	0.	0.	5.58E-10	0.	0.	0.	9.28E-03	9.53E-03	1.49E-03	2.03E-02
102 0.60 0.	1.08E-08	0.	0.	0.	0.	2.03E-09	0.	0.	0.	1.49E-02	1.06E-02	1.66E-03	2.72E-02



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1300G.	DENSITY (GM/CC)		1.293E-06	(10.0E-04 NORMAL)		FREE-FREE		N	P.E.		TOTAL AIR	
PHOTON ENERGY BANDS		U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R
E.V.		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13
		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13
1	10.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

## ABSORPTIVITY COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 13000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON U2 S-R ENERGY RAJDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NU RETA	NO GAMMA	NO VIR-KOT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	U P.E.	TOTAL AIR
52	5.60	6.39E-19	0.	0.	1.76E-10	1.16E-09	0.	6.63E-07	1.03E-06	1.45E-05	1.05E-05	2.67E-05
53	5.50	0.	0.	2.15E-10	1.09E-09	0.	0.	6.66E-07	1.09E-06	1.48E-05	1.06E-05	2.71E-05
54	5.40	0.	0.	1.90E-10	8.17E-10	0.	0.	6.69E-07	1.15E-06	1.51E-05	1.08E-05	2.77E-05
55	5.30	0.	0.	1.95E-10	1.10E-09	0.	0.	6.74E-07	1.22E-06	1.54E-05	1.09E-05	2.82E-05
56	5.20	0.	0.	2.07E-10	7.37E-10	0.	0.	6.78E-07	1.29E-06	1.57E-05	1.12E-05	2.89E-05
57	5.10	0.	0.	2.04E-10	9.72E-10	0.	0.	6.84E-07	1.37E-06	1.62E-05	1.14E-05	2.96E-05
58	5.00	8.2E-12	0.	1.84E-10	8.78E-10	0.	0.	6.90E-07	1.46E-06	1.67E-05	1.16E-05	3.04E-05
59	4.90	1.9E-11	0.	2.01E-10	9.25E-10	0.	0.	6.95E-07	1.55E-06	1.72E-05	1.19E-05	3.13E-05
60	4.80	3.5E-11	0.	2.14E-10	8.58E-10	0.	0.	7.01E-07	1.65E-06	1.77E-05	1.21E-05	3.22E-05
61	4.70	4.57E-11	0.	2.09E-10	7.61E-10	0.	0.	7.07E-07	1.76E-06	1.83E-05	1.24E-05	3.31E-05
62	4.60	6.11E-11	0.	2.12E-10	6.97E-10	0.	0.	7.13E-07	1.87E-06	1.89E-05	1.27E-05	3.42E-05
63	4.50	6.27E-11	0.	1.10E-10	5.15E-10	0.	0.	7.18E-07	2.00E-06	1.98E-05	1.30E-05	3.55E-05
64	4.40	6.53E-11	0.	1.87E-10	3.65E-10	0.	0.	7.24E-07	2.14E-06	2.06E-05	1.34E-05	3.68E-05
65	4.30	6.02E-11	0.	1.74E-10	2.20E-10	0.	0.	7.30E-07	2.29E-06	2.15E-05	1.37E-05	3.82E-05
66	4.20	5.52E-11	0.	1.82E-10	1.63E-10	0.	0.	7.36E-07	2.46E-06	2.24E-05	1.39E-05	3.95E-05
67	4.10	5.08E-11	0.	1.74E-10	4.37E-11	0.	0.	7.38E-07	2.65E-06	2.33E-05	1.39E-05	3.95E-05
68	4.00	4.59E-11	0.	1.65E-10	3.33E-11	0.	0.	7.41E-07	2.85E-06	2.42E-05	1.39E-05	3.95E-05
69	3.90	3.80E-11	0.	1.47E-10	1.34E-11	0.	0.	7.38E-07	3.08E-06	2.18E-05	4.07E-06	2.98E-05
70	3.80	4.12E-11	0.	1.57E-10	0.	0.	0.	7.36E-07	3.33E-06	1.72E-05	4.22E-06	2.56E-05
71	3.70	3.54E-11	0.	1.28E-10	0.	0.	0.	7.24E-07	3.61E-06	1.79E-05	4.68E-06	2.69E-05
72	3.60	3.13E-11	0.	1.39E-10	0.	0.	0.	6.78E-07	3.93E-06	1.79E-05	5.20E-06	2.78E-05
73	3.50	2.86E-11	0.	1.05E-10	0.	0.	0.	6.21E-07	4.28E-06	1.99E-05	5.77E-06	3.08E-05
74	3.40	2.55E-11	0.	1.17E-10	0.	0.	0.	3.58E-07	4.67E-06	2.24E-05	6.40E-06	3.38E-05
75	3.30	2.01E-11	0.	9.01E-11	0.	0.	0.	3.59E-07	5.11E-06	2.48E-05	7.04E-06	3.74E-05
76	3.20	1.76E-11	0.	9.31E-11	0.	0.	0.	3.59E-07	5.61E-06	2.73E-05	7.71E-06	4.12E-05
77	3.10	1.59E-11	0.	8.59E-11	0.	0.	0.	3.60E-07	6.18E-06	2.98E-05	8.39E-06	4.47E-05
78	3.00	1.39E-11	0.	7.86E-11	0.	0.	0.	3.61E-07	6.82E-06	3.23E-05	9.06E-06	4.87E-05
79	2.90	1.13E-11	0.	5.73E-11	0.	0.	0.	3.61E-07	7.56E-06	3.49E-05	9.75E-06	5.27E-05
80	2.80	1.16E-11	0.	3.75E-11	0.	0.	0.	3.62E-07	8.40E-06	3.79E-05	1.03E-05	5.72E-05
81	2.70	7.14E-12	0.	1.94E-11	0.	0.	0.	3.62E-07	9.38E-06	4.11E-05	1.14E-05	6.22E-05
82	2.60	3.19E-12	0.	8.12E-12	0.	0.	0.	3.62E-07	1.05E-05	4.45E-05	1.12E-05	6.65E-05
83	2.50	2.19E-13	0.	1.87E-12	0.	0.	0.	3.62E-07	1.18E-05	5.03E-05	5.92E-06	6.84E-05
84	2.40	0.	2.40E-10	0.	0.	0.	0.	3.62E-07	1.34E-05	5.69E-05	7.27E-06	5.79E-05
85	2.30	0.	8.69E-10	0.	0.	0.	0.	3.59E-07	1.52E-05	4.47E-05	8.71E-06	6.90E-05
86	2.20	0.	2.08E-09	0.	0.	0.	0.	3.58E-07	1.74E-05	5.28E-05	1.05E-05	8.11E-05
87	2.10	0.	2.46E-09	0.	0.	0.	0.	3.56E-07	2.01E-05	6.15E-05	1.23E-05	9.42E-05
88	2.00	0.	4.52E-09	0.	0.	0.	0.	3.45E-07	2.33E-05	7.02E-05	1.40E-05	1.08E-04
89	1.90	0.	6.87E-09	0.	0.	0.	0.	3.32E-07	2.73E-05	7.98E-05	1.60E-05	1.23E-04
90	1.80	0.	5.65E-09	0.	0.	0.	0.	3.17E-07	3.21E-05	9.47E-05	1.93E-05	1.46E-04
91	1.70	0.	6.71E-09	0.	0.	0.	0.	2.99E-07	3.82E-05	1.13E-04	2.33E-05	1.75E-04
92	1.60	0.	4.83E-09	0.	0.	0.	0.	2.53E-07	4.59E-05	1.32E-04	2.74E-05	2.05E-04
93	1.50	0.	5.76E-09	0.	0.	0.	0.	1.15E-07	5.60E-05	1.67E-04	3.17E-05	2.55E-04
94	1.40	0.	5.83E-09	0.	0.	0.	0.	0.	6.91E-05	1.94E-04	3.91E-05	3.02E-04
95	1.30	0.	4.44E-09	0.	0.	0.	0.	0.	8.65E-05	1.99E-04	3.77E-05	3.23E-04
96	1.20	0.	4.30E-09	0.	0.	0.	0.	0.	1.10E-04	2.62E-04	5.04E-05	4.23E-04
97	1.10	0.	3.87E-09	0.	0.	1.11E-14	0.	0.	1.44E-04	3.31E-04	6.33E-05	5.39E-04
98	1.00	0.	3.55E-09	0.	0.	1.32E-13	0.	0.	1.94E-04	4.01E-04	7.10E-05	6.65E-04
99	0.90	0.	2.91E-09	0.	0.	1.52E-13	0.	0.	2.68E-04	4.56E-04	8.36E-05	8.08E-04
100	0.80	0.	1.37E-09	0.	0.	3.04E-12	0.	0.	3.83E-04	5.24E-04	9.61E-05	1.00E-03
101	0.70	0.	3.39E-10	0.	0.	2.37E-12	0.	0.	5.74E-04	5.76E-04	1.04E-04	1.25E-03
102	0.60	0.	3.96E-11	0.	0.	8.62E-12	0.	0.	9.24E-04	5.19E-04	8.76E-05	1.53E-03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 13000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTO- ENERGY E.V.	U2 S-R RANOS	O2 S-R CONT.	1/2 H-H NO. 1	NO BETA	NO GAMMA	NU 2	O- PHOTO-DET (IONS)	FREE-FREE N	P.E.	O P.E.	TOTAL AIR
1	10.70 0.	0.	3.98E-11	0.	0.	0.	3.62E-09	4.27E-09	1.09E-06	3.10E-07	1.41E-06
2	10.60 0.	0.	3.52E-11	0.	0.	0.	3.62E-09	4.40E-09	1.10E-06	3.09E-07	1.41E-06
3	10.50 0.	0.	3.50E-11	0.	0.	0.	3.62E-09	4.52E-09	1.10E-06	3.08E-07	1.42E-06
4	10.40 0.	0.	3.24E-11	0.	0.	0.	3.63E-09	4.66E-09	1.10E-06	3.02E-07	1.42E-06
5	10.30 0.	0.	2.75E-11	0.	0.	0.	3.63E-09	4.79E-09	1.11E-06	3.07E-07	1.42E-06
6	10.20 0.	0.	2.79E-11	0.	0.	0.	3.64E-09	4.94E-09	1.11E-06	3.06E-07	1.42E-06
7	10.10 0.	0.	2.58E-11	0.	0.	0.	3.64E-09	5.09E-09	1.11E-06	3.05E-07	1.43E-06
8	10.00 0.	0.	2.19E-11	0.	0.	0.	3.65E-09	5.24E-09	1.11E-06	3.05E-07	1.43E-06
9	9.90 0.	0.	2.23E-11	0.	0.	0.	3.66E-09	5.40E-09	1.12E-06	3.04E-07	1.43E-06
10	9.80 0.	0.	2.04E-11	0.	0.	0.	3.66E-09	5.57E-09	1.12E-06	3.03E-07	1.43E-06
11	9.70 0.	0.	1.71E-11	0.	0.	0.	3.67E-09	5.75E-09	1.12E-06	3.02E-07	1.44E-06
12	9.60 0.	0.	1.84E-11	0.	0.	0.	3.68E-09	5.93E-09	1.13E-06	3.02E-07	1.44E-06
13	9.50 0.	0.	1.52E-11	0.	0.	0.	3.68E-09	6.12E-09	1.13E-06	3.01E-07	1.44E-06
14	9.40 0.	0.	1.40E-11	0.	0.	0.	3.70E-09	6.32E-09	1.13E-06	3.00E-07	1.44E-06
15	9.30 0.	0.	1.42E-11	0.	0.	0.	3.71E-09	6.52E-09	1.13E-06	2.99E-07	1.44E-06
16	9.20 0.	0.	1.13E-11	0.	0.	0.	3.72E-09	6.74E-09	1.13E-06	2.99E-07	1.44E-06
17	9.10 0.	0.	1.16E-11	0.	0.	0.	3.74E-09	6.96E-09	1.13E-06	2.98E-07	1.44E-06
18	9.00 0.	0.	1.02E-11	0.	0.	0.	3.75E-09	7.20E-09	1.12E-06	2.97E-07	1.44E-06
19	8.90 0.	0.	9.19E-12	0.	0.	0.	3.76E-09	7.44E-09	1.12E-06	2.96E-07	1.44E-06
20	8.80 0.	0.	8.92E-12	0.	0.	0.	3.78E-09	7.70E-09	1.12E-06	2.96E-07	1.44E-06
21	8.70 0.	0.	7.46E-12	0.	0.	0.	3.79E-09	7.97E-09	1.12E-06	2.95E-07	1.44E-06
22	8.60 0.	0.	7.62E-12	0.	0.	0.	3.80E-09	8.25E-09	1.12E-06	2.94E-07	1.44E-06
23	8.50 0.	0.	6.44E-12	0.	0.	0.	3.82E-09	8.55E-09	1.12E-06	2.94E-07	1.44E-06
24	8.40 0.	0.	6.32E-12	0.	0.	0.	3.84E-09	8.86E-09	1.12E-06	2.93E-07	1.44E-06
25	8.30 0.	0.	5.18E-12	0.	0.	0.	3.86E-09	9.18E-09	1.12E-06	2.93E-07	1.44E-06
26	8.20 0.	0.	5.17E-12	0.	0.	0.	3.88E-09	9.53E-09	1.12E-06	2.95E-07	1.44E-06
27	8.10 0.	0.	4.32E-12	0.	0.	0.	3.90E-09	9.88E-09	1.12E-06	2.96E-07	1.44E-06
28	8.00 0.	0.	4.28E-12	0.	0.	0.	3.92E-09	1.03E-08	1.12E-06	2.98E-07	1.44E-06
29	7.90 0.	0.	3.57E-12	0.	0.	0.	3.94E-09	1.06E-08	1.12E-06	2.99E-07	1.44E-06
30	7.80 0.	0.	3.64E-12	0.	0.	0.	3.96E-09	1.11E-08	1.12E-06	3.01E-07	1.44E-06
31	7.70 0.	0.	3.10E-12	0.	0.	0.	3.98E-09	1.15E-08	1.12E-06	3.02E-07	1.44E-06
32	7.60 0.	0.	2.88E-12	0.	2.07E-16	0.	4.00E-09	1.20E-08	1.12E-06	3.04E-07	1.44E-06
33	7.50 0.	0.	2.60E-12	0.	8.59E-16	0.	4.02E-09	1.25E-08	1.12E-06	3.05E-07	1.44E-06
34	7.40 0.	0.	2.28E-12	0.	5.62E-15	0.	4.04E-09	1.30E-08	1.12E-06	3.07E-07	1.44E-06
35	7.30 0.	0.	2.11E-12	0.	2.53E-14	0.	4.06E-09	1.35E-08	1.12E-06	3.08E-07	1.44E-06
36	7.20 0.	0.	1.85E-12	0.	6.73E-14	0.	4.08E-09	1.41E-08	1.12E-06	3.10E-07	1.44E-06
37	7.10 0.	0.	1.74E-12	0.	1.97E-13	0.	4.12E-09	1.47E-08	1.12E-06	3.11E-07	1.44E-06
38	7.00 0.	0.	1.55E-12	0.	4.55E-13	0.	4.15E-09	1.53E-08	1.12E-06	3.13E-07	1.44E-06
39	6.90 0.	0.	1.39E-12	0.	5.36E-13	0.	4.18E-09	1.60E-08	1.12E-06	3.15E-07	1.44E-06
40	6.80 0.	0.	1.30E-12	0.	1.04E-12	0.	4.22E-09	1.67E-08	1.12E-06	3.16E-07	1.44E-06
41	6.70 0.	0.	1.11E-12	0.	1.14E-12	0.	4.25E-09	1.75E-08	1.12E-06	3.18E-07	1.44E-06
42	6.60 0.	0.	9.67E-13	0.	7.96E-13	0.	4.28E-09	1.83E-08	1.12E-06	3.20E-07	1.44E-06
43	6.50 0.	0.	7.44E-13	0.	1.31E-12	0.	4.32E-09	1.92E-08	1.12E-06	3.22E-07	1.44E-06
44	6.40 0.	0.	4.90E-13	5.88E-15	1.36E-12	0.	4.35E-09	2.01E-08	1.12E-06	3.24E-07	1.44E-06
45	6.30 0.	0.	2.91E-13	2.67E-14	8.20E-13	0.	4.39E-09	2.11E-08	1.12E-06	3.27E-07	1.44E-06
46	6.20 0.	0.	1.54E-13	3.68E-14	1.19E-12	0.	4.42E-09	2.21E-08	1.12E-06	3.31E-07	1.44E-06
47	6.10 0.	0.	6.91E-14	1.03E-13	1.63E-12	0.	4.45E-09	2.32E-08	1.12E-06	3.35E-07	1.44E-06
48	6.00 0.	0.	1.71E-14	9.34E-14	7.09E-13	0.	4.49E-09	2.44E-08	1.12E-06	3.40E-07	1.44E-06
49	5.90 0.	0.	1.22E-15	1.35E-13	7.17E-13	0.	4.49E-09	2.57E-08	1.12E-06	3.44E-07	1.44E-06
50	5.80 0.	0.	3.04E-17	1.85E-13	7.08E-13	0.	4.42E-09	2.70E-08	1.12E-06	3.49E-07	1.44E-06
51	5.70 0.	0.	0.	2.09E-13	7.81E-13	0.	4.15E-09	2.85E-08	1.12E-06	3.53E-07	1.44E-06

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 13000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON 02 S-R	N2	N2	N2+	BETA	GAMMA	NO	VIB-ROT	NO	PHOTO-DET	FREE-FREE	N	O	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.							(IONS)	P.E.	P.E.	
52	5.60	7.45E-22	0.	0.	1.69E-13	1.11E-12	0.	0.	3.86E-09	3.01E-08	4.07E-07	3.57E-07	7.98E-07
53	5.50	0.	0.	0.	2.06E-13	1.04E-12	0.	0.	3.98E-09	3.18E-08	4.14E-07	3.62E-07	8.12E-07
54	5.40	0.	0.	0.	1.83E-13	7.83E-13	0.	0.	3.90E-09	3.36E-08	4.23E-07	3.68E-07	8.28E-07
55	5.30	0.	0.	0.	1.87E-13	1.05E-12	0.	0.	3.92E-09	3.55E-08	4.33E-07	3.74E-07	8.46E-07
56	5.20	0.	0.	0.	1.98E-13	7.07E-13	0.	0.	3.95E-09	3.76E-08	4.42E-07	3.81E-07	8.65E-07
57	5.10	0.	0.	0.	1.96E-13	9.32E-13	0.	0.	3.98E-09	3.99E-08	4.54E-07	3.89E-07	8.87E-07
58	5.00	9.57E-15	0.	0.	1.76E-13	8.42E-13	0.	0.	4.02E-09	4.24E-08	4.68E-07	3.97E-07	9.11E-07
59	4.90	2.75E-14	0.	0.	1.93E-13	8.87E-13	0.	0.	4.05E-09	4.50E-08	4.82E-07	4.05E-07	9.36E-07
60	4.80	0.04E-14	0.	0.	2.05E-13	8.23E-13	0.	0.	4.08E-09	4.79E-08	4.97E-07	4.13E-07	9.63E-07
61	4.70	5.33E-14	0.	0.	2.01E-13	7.30E-13	0.	0.	4.12E-09	5.11E-08	5.13E-07	4.24E-07	9.92E-07
62	4.60	7.13E-14	0.	0.	2.03E-13	6.69E-13	0.	0.	4.15E-09	5.45E-08	5.32E-07	4.34E-07	1.02E-06
63	4.50	7.32E-14	0.	0.	1.81E-13	4.94E-13	0.	0.	4.18E-09	5.82E-08	5.55E-07	4.45E-07	1.06E-06
64	4.40	7.62E-14	0.	0.	1.80E-13	3.50E-13	0.	0.	4.22E-09	6.23E-08	5.78E-07	4.56E-07	1.10E-06
65	4.30	7.02E-14	0.	0.	1.67E-13	2.11E-13	0.	0.	4.25E-09	6.68E-08	6.03E-07	4.63E-07	1.14E-06
66	4.20	6.44E-14	0.	0.	1.75E-13	1.56E-13	0.	0.	4.28E-09	7.17E-08	6.29E-07	4.36E-07	1.14E-06
67	4.10	5.93E-14	0.	0.	1.67E-13	4.19E-14	0.	0.	4.30E-09	7.71E-08	6.54E-07	1.31E-07	8.66E-07
68	4.00	5.36E-14	0.	0.	1.58E-13	3.20E-14	0.	0.	4.32E-09	8.30E-08	6.91E-07	1.35E-07	8.13E-07
69	3.90	4.44E-14	0.	0.	1.41E-13	1.29E-14	0.	0.	4.30E-09	8.96E-08	7.46E-07	1.39E-07	7.99E-07
70	3.80	4.81E-14	0.	0.	1.50E-13	0.	0.	0.	4.28E-09	9.69E-08	8.44E-07	1.44E-07	7.30E-07
71	3.70	4.13E-14	0.	0.	1.23E-13	0.	0.	0.	4.22E-09	1.05E-07	8.59E-07	1.60E-07	7.28E-07
72	3.60	3.65E-14	0.	0.	2.00E-12	4.55E-10	0.	0.	3.95E-09	1.14E-07	5.01E-07	1.78E-07	7.98E-07
73	3.50	3.34E-14	0.	0.	2.82E-12	1.08E-09	0.	0.	3.62E-09	1.24E-07	5.60E-07	1.97E-07	8.86E-07
74	3.40	2.97E-14	0.	0.	1.62E-12	1.18E-10	0.	0.	2.09E-09	1.36E-07	6.28E-07	2.19E-07	9.84E-07
75	3.30	2.34E-14	0.	0.	1.69E-12	5.40E-10	0.	0.	2.09E-09	1.49E-07	6.96E-07	2.40E-07	1.09E-06
76	3.20	1.93E-14	0.	0.	1.05E-12	1.09E-09	0.	0.	2.09E-09	1.63E-07	7.65E-07	2.63E-07	1.20E-06
77	3.10	1.86E-14	0.	0.	8.03E-13	1.86E-10	0.	0.	2.10E-09	1.80E-07	8.36E-07	2.86E-07	1.30E-06
78	3.00	1.62E-14	0.	0.	4.76E-13	5.27E-10	0.	0.	2.10E-09	1.98E-07	9.07E-07	3.09E-07	1.42E-06
79	2.90	1.32E-14	0.	0.	2.90E-13	3.11E-10	0.	0.	2.11E-09	2.20E-07	9.81E-07	3.33E-07	1.54E-06
80	2.80	1.35E-14	0.	0.	1.39E-13	1.57E-10	0.	0.	2.11E-09	2.44E-07	1.06E-06	3.59E-07	1.67E-06
81	2.70	8.33E-15	0.	0.	6.41E-14	2.54E-10	0.	0.	2.11E-09	2.73E-07	1.15E-06	3.54E-07	1.78E-06
82	2.60	3.72E-15	0.	0.	3.21E-14	2.41E-11	0.	0.	2.11E-09	3.06E-07	1.25E-06	1.75E-07	1.73E-06
83	2.50	2.56E-16	0.	0.	3.71E-13	2.15E-11	0.	0.	2.11E-09	3.44E-07	1.38E-07	2.01E-07	1.39E-06
84	2.40	0.	0.	0.	1.89E-13	0.	0.	0.	2.11E-09	3.90E-07	1.03E-06	2.48E-07	1.67E-06
85	2.30	0.	0.	0.	6.85E-13	0.	0.	0.	2.09E-09	4.43E-07	1.25E-06	2.97E-07	2.00E-06
86	2.20	0.	0.	0.	1.64E-12	0.	0.	0.	2.08E-09	5.07E-07	1.48E-06	3.58E-07	2.35E-06
87	2.10	0.	0.	0.	1.94E-12	0.	0.	0.	2.08E-09	5.84E-07	1.73E-06	4.18E-07	2.73E-06
88	2.00	0.	0.	0.	3.56E-12	0.	0.	0.	2.01E-09	6.78E-07	1.97E-06	4.79E-07	3.13E-06
89	1.90	0.	0.	0.	5.42E-12	0.	0.	0.	1.93E-09	7.93E-07	2.24E-06	5.47E-07	3.58E-06
90	1.80	0.	0.	0.	4.46E-12	0.	0.	0.	1.85E-09	9.34E-07	2.66E-06	6.58E-07	4.25E-06
91	1.70	0.	0.	0.	5.29E-12	0.	0.	0.	1.74E-09	1.11E-06	3.18E-06	7.97E-07	5.09E-06
92	1.60	0.	0.	0.	3.81E-12	0.	0.	0.	1.47E-09	1.34E-06	3.69E-06	8.86E-07	5.92E-06
93	1.50	0.	0.	0.	4.55E-12	0.	0.	0.	6.70E-10	1.63E-06	4.38E-06	1.08E-06	7.09E-06
94	1.40	0.	0.	0.	4.60E-12	0.	0.	0.	0.	2.01E-06	3.78E-06	1.28E-06	7.08E-06
95	1.30	0.	0.	0.	3.50E-12	0.	0.	0.	0.	2.52E-06	5.58E-06	1.28E-06	9.38E-06
96	1.20	0.	0.	0.	3.39E-12	0.	0.	0.	0.	3.21E-06	7.36E-06	1.72E-06	1.23E-05
97	1.10	0.	0.	0.	3.05E-12	0.	0.	0.	0.	4.20E-06	9.30E-06	1.99E-06	1.55E-05
98	1.00	0.	0.	0.	2.80E-12	0.	0.	0.	0.	5.64E-06	1.09E-05	2.42E-06	1.90E-05
99	0.90	0.	0.	0.	2.30E-12	0.	0.	0.	0.	7.80E-06	1.28E-05	2.85E-06	2.35E-05
100	0.80	0.	0.	0.	1.09E-12	0.	0.	0.	0.	1.11E-05	1.43E-05	3.15E-06	2.86E-05
101	0.70	0.	0.	0.	2.68E-13	0.	0.	0.	0.	1.67E-05	1.29E-05	2.65E-06	3.23E-05
102	0.60	0.	0.	0.	3.12E-14	0.	0.	0.	0.	2.69E-05	1.46E-05	2.99E-06	4.44E-05

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-08 (1.0E-05 NORMAL)		NO		U- PHOTO-DET (IONS)		N		TOTAL AIR	
PHTON Q2 S-R		O2 S-R		V2 R-H		NO		NO		NO		P.E.	
ENERGY HANDS		CONT.		NO. 1		RETA		GAMMA		P.E.		P.E.	
E.V.													
1	13.70	0.	0.	6.76E-15	0.	0.	0.	5.86E-12	5.66E-11	1.42E-08	4.36E-09	1.87E-08	0.
2	15.60	0.	0.	5.99E-15	0.	0.	0.	5.87E-12	5.83E-11	1.43E-08	4.35E-09	1.87E-08	0.
3	10.50	0.	0.	5.96E-15	0.	0.	0.	5.88E-12	6.00E-11	1.44E-08	4.34E-09	1.88E-08	0.
4	10.40	0.	0.	5.51E-15	0.	0.	0.	5.88E-12	6.17E-11	1.44E-08	4.33E-09	1.88E-08	0.
5	10.30	0.	0.	4.68E-15	0.	0.	0.	5.89E-12	6.35E-11	1.45E-08	4.32E-09	1.88E-08	0.
6	10.20	0.	0.	4.75E-15	0.	0.	0.	5.90E-12	6.54E-11	1.45E-08	4.31E-09	1.89E-08	0.
7	10.10	0.	0.	4.40E-15	0.	0.	0.	5.91E-12	6.74E-11	1.45E-08	4.30E-09	1.89E-08	0.
8	10.00	0.	0.	3.73E-15	0.	0.	0.	5.91E-12	6.95E-11	1.46E-08	4.29E-09	1.89E-08	0.
9	9.90	0.	0.	3.80E-15	0.	0.	0.	5.92E-12	7.16E-11	1.46E-08	4.28E-09	1.90E-08	0.
10	9.80	0.	0.	3.48E-15	0.	0.	0.	5.94E-12	7.38E-11	1.46E-08	4.27E-09	1.90E-08	0.
11	9.70	0.	0.	2.91E-15	0.	0.	0.	5.95E-12	7.62E-11	1.47E-08	4.26E-09	1.90E-08	0.
12	9.60	0.	0.	3.13E-15	0.	0.	0.	5.96E-12	7.86E-11	1.47E-08	4.25E-09	1.90E-08	0.
13	9.50	0.	0.	2.58E-15	0.	0.	0.	5.97E-12	8.11E-11	1.48E-08	4.24E-09	1.91E-08	0.
14	9.40	0.	0.	2.38E-15	0.	0.	0.	5.99E-12	8.37E-11	1.48E-08	4.23E-09	1.91E-08	0.
15	9.30	0.	0.	2.42E-15	0.	0.	0.	6.01E-12	8.64E-11	1.48E-08	4.22E-09	1.91E-08	0.
16	9.20	0.	0.	1.92E-15	0.	0.	0.	6.03E-12	8.93E-11	1.48E-08	4.21E-09	1.91E-08	0.
17	9.10	0.	0.	1.97E-15	0.	0.	0.	6.06E-12	9.23E-11	1.48E-08	4.20E-09	1.91E-08	0.
18	9.00	0.	0.	1.74E-15	0.	0.	0.	6.08E-12	9.54E-11	1.48E-08	4.19E-09	1.91E-08	0.
19	8.90	0.	0.	1.56E-15	0.	0.	0.	6.10E-12	9.87E-11	1.48E-08	4.18E-09	1.91E-08	0.
20	8.80	0.	0.	1.52E-15	0.	0.	0.	6.12E-12	1.02E-10	1.48E-08	4.17E-09	1.91E-08	0.
21	8.70	0.	0.	1.27E-15	0.	0.	0.	6.14E-12	1.06E-10	1.48E-08	4.16E-09	1.91E-08	0.
22	8.60	0.	0.	1.30E-15	0.	0.	0.	6.16E-12	1.09E-10	1.48E-08	4.15E-09	1.91E-08	0.
23	8.50	0.	0.	1.10E-15	0.	0.	0.	6.19E-12	1.13E-10	1.48E-08	4.14E-09	1.91E-08	0.
24	8.40	0.	0.	1.07E-15	0.	0.	0.	6.22E-12	1.17E-10	1.48E-08	4.13E-09	1.91E-08	0.
25	8.30	0.	0.	8.81E-16	0.	0.	0.	6.25E-12	1.22E-10	1.48E-08	4.13E-09	1.91E-08	0.
26	8.20	0.	0.	8.80E-16	0.	0.	0.	6.28E-12	1.26E-10	1.48E-08	4.13E-09	1.91E-08	0.
27	8.10	0.	0.	7.35E-16	0.	0.	0.	6.32E-12	1.31E-10	1.48E-08	4.13E-09	1.91E-08	0.
28	8.00	0.	0.	7.29E-16	0.	0.	0.	6.35E-12	1.36E-10	1.48E-08	4.13E-09	1.91E-08	0.
29	7.90	0.	0.	6.08E-16	0.	0.	0.	6.38E-12	1.41E-10	1.48E-08	4.13E-09	1.91E-08	0.
30	7.80	0.	0.	6.20E-16	0.	0.	0.	6.41E-12	1.47E-10	1.48E-08	4.13E-09	1.91E-08	0.
31	7.70	0.	0.	5.28E-16	0.	0.	0.	6.45E-12	1.52E-10	1.48E-08	4.13E-09	1.91E-08	0.
32	7.60	0.	0.	4.90E-16	0.	0.	0.	6.48E-12	1.59E-10	1.48E-08	4.13E-09	1.91E-08	0.
33	7.50	0.	0.	4.41E-16	0.	0.	0.	6.51E-12	1.65E-10	1.48E-08	4.13E-09	1.91E-08	0.
34	7.40	0.	0.	3.88E-16	0.	0.	0.	6.55E-12	1.72E-10	1.48E-08	4.13E-09	1.91E-08	0.
35	7.30	0.	0.	3.58E-16	0.	0.	0.	6.58E-12	1.79E-10	1.48E-08	4.13E-09	1.91E-08	0.
36	7.20	0.	0.	3.15E-16	0.	0.	0.	6.62E-12	1.87E-10	1.48E-08	4.13E-09	1.91E-08	0.
37	7.10	0.	0.	2.96E-16	0.	0.	0.	6.67E-12	1.95E-10	1.48E-08	4.13E-09	1.91E-08	0.
38	7.00	1.44E-19	0.	2.64E-16	0.	0.	0.	6.73E-12	2.03E-10	1.48E-08	4.13E-09	1.91E-08	0.
39	6.90	2.81E-19	0.	2.37E-16	0.	0.	0.	6.78E-12	2.12E-10	1.48E-08	4.13E-09	1.91E-08	0.
40	6.80	2.34E-19	0.	2.22E-16	0.	0.	0.	6.84E-12	2.22E-10	1.48E-08	4.13E-09	1.91E-08	0.
41	6.70	1.71E-19	0.	1.89E-16	0.	0.	0.	6.89E-12	2.32E-10	1.48E-08	4.13E-09	1.91E-08	0.
42	6.60	1.02E-19	0.	1.64E-16	0.	0.	0.	6.94E-12	2.43E-10	1.48E-08	4.13E-09	1.91E-08	0.
43	6.50	5.70E-20	0.	1.27E-16	0.	0.	0.	7.00E-12	2.54E-10	1.48E-08	4.13E-09	1.91E-08	0.
44	6.40	3.22E-20	0.	8.34E-17	0.	0.	0.	7.05E-12	2.66E-10	1.48E-08	4.13E-09	1.91E-08	0.
45	6.30	1.83E-20	0.	4.94E-17	0.	0.	0.	7.11E-12	2.79E-10	1.48E-08	4.13E-09	1.91E-08	0.
46	6.20	8.04E-21	0.	2.61E-17	0.	0.	0.	7.16E-12	2.93E-10	1.48E-08	4.13E-09	1.91E-08	0.
47	6.10	3.54E-21	0.	1.14E-17	0.	0.	0.	7.22E-12	3.08E-10	1.48E-08	4.13E-09	1.91E-08	0.
48	6.00	1.47E-21	0.	2.90E-18	0.	0.	0.	7.27E-12	3.24E-10	1.48E-08	4.13E-09	1.91E-08	0.
49	5.90	3.54E-22	0.	2.07E-19	0.	0.	0.	7.27E-12	3.40E-10	1.48E-08	4.13E-09	1.91E-08	0.
50	5.80	4.49E-23	0.	5.17E-21	0.	0.	0.	7.16E-12	3.59E-10	1.48E-08	4.13E-09	1.91E-08	0.
51	5.70	3.34E-24	0.	0.	0.	0.	0.	6.73E-12	3.78E-10	1.48E-08	4.13E-09	1.91E-08	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 13000. DENSITY (GM/CC) 1.293E-08 (1.0E-05 NORMAL)

PHOTON ENERGY	Q2 S-R	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	U P.E.	TOTAL AIR
52	5.60	1.43E-25	0.	0.	3.10E-17	2.05E-16	0.	0.	6.26E-12	3.99E-10	5.31E-09	5.04E-09	1.07E-08
53	5.50	0.	0.	0.	3.79E-17	1.92E-16	0.	0.	6.29E-12	4.21E-10	5.41E-09	5.10E-09	1.09E-08
54	5.40	0.	0.	0.	3.35E-17	1.44E-16	0.	0.	6.32E-12	4.45E-10	5.52E-09	5.18E-09	1.12E-08
55	5.30	0.	0.	0.	3.44E-17	1.93E-16	0.	0.	6.36E-12	4.71E-10	5.65E-09	5.26E-09	1.14E-08
56	5.20	0.	0.	0.	3.64E-17	1.30E-16	0.	0.	6.40E-12	4.99E-10	5.77E-09	5.37E-09	1.16E-08
57	5.10	0.	0.	0.	3.59E-17	1.71E-16	0.	0.	6.46E-12	5.29E-10	5.93E-09	5.48E-09	1.19E-08
58	5.00	1.95E-18	0.	0.	3.23E-17	1.55E-16	0.	0.	6.51E-12	5.62E-10	6.11E-09	5.59E-09	1.23E-08
59	4.90	4.47E-18	0.	0.	3.54E-17	1.63E-16	0.	0.	6.57E-12	5.97E-10	6.29E-09	5.70E-09	1.26E-08
60	4.80	8.11E-18	0.	0.	3.77E-17	1.51E-16	0.	0.	6.62E-12	6.35E-10	6.49E-09	5.82E-09	1.30E-08
61	4.70	1.06E-17	0.	0.	3.68E-17	1.34E-16	0.	0.	6.67E-12	6.77E-10	6.69E-09	5.97E-09	1.33E-08
62	4.60	1.41E-17	0.	0.	3.73E-17	1.73E-16	0.	0.	6.73E-12	7.22E-10	6.94E-09	6.12E-09	1.38E-08
63	4.50	1.45E-17	0.	1.47E-17	3.33E-17	9.08E-17	0.	0.	6.78E-12	7.72E-10	7.24E-09	6.27E-09	1.43E-08
64	4.40	1.51E-17	0.	4.79E-17	3.30E-17	6.42E-17	0.	0.	6.84E-12	8.26E-10	7.55E-09	6.43E-09	1.48E-08
65	4.30	1.34E-17	0.	1.38E-16	3.07E-17	3.87E-17	0.	0.	6.89E-12	8.85E-10	7.87E-09	6.52E-09	1.53E-08
66	4.20	1.24E-17	0.	4.90E-16	3.21E-17	2.87E-17	0.	0.	6.94E-12	9.50E-10	8.21E-09	1.79E-09	1.09E-08
67	4.10	1.18E-17	0.	1.84E-16	3.06E-17	7.69E-18	0.	0.	6.97E-12	1.02E-09	7.52E-09	1.85E-09	1.04E-08
68	4.00	1.06E-17	0.	6.98E-16	2.90E-17	5.87E-18	0.	0.	7.00E-12	1.10E-09	7.71E-09	1.90E-09	1.07E-08
69	3.90	8.79E-18	0.	3.15E-16	2.59E-17	2.36E-18	0.	0.	6.97E-12	1.19E-09	6.08E-09	1.96E-09	9.23E-09
70	3.80	9.53E-18	0.	4.81E-16	2.76E-17	0.	0.	0.	6.94E-12	1.28E-09	6.32E-09	2.03E-09	9.65E-09
71	3.70	8.14E-18	0.	5.50E-16	2.25E-17	0.	0.	0.	6.84E-12	1.39E-09	6.00E-09	2.25E-09	9.65E-09
72	3.60	7.24E-18	0.	3.41E-16	2.44E-17	0.	0.	0.	6.40E-12	1.51E-09	6.55E-09	2.50E-09	1.06E-08
73	3.50	6.61E-18	0.	4.80E-16	1.85E-17	0.	0.	0.	5.86E-12	1.65E-09	7.31E-09	2.77E-09	1.17E-08
74	3.40	5.89E-18	0.	2.75E-16	2.06E-17	0.	0.	0.	3.38E-12	1.80E-09	8.19E-09	3.08E-09	1.31E-08
75	3.30	4.64E-18	0.	2.88E-16	1.59E-17	0.	0.	0.	3.39E-12	1.97E-09	9.08E-09	3.39E-09	1.44E-08
76	3.20	3.94E-18	0.	1.78E-16	1.64E-17	0.	0.	0.	3.39E-12	2.16E-09	9.99E-09	3.71E-09	1.59E-08
77	3.10	3.68E-18	0.	1.37E-16	2.75E-13	1.51E-17	0.	0.	3.40E-12	2.38E-09	1.09E-08	4.03E-09	1.73E-08
78	3.00	3.21E-18	0.	8.10E-17	7.79E-13	1.38E-17	0.	0.	3.41E-12	2.63E-09	1.18E-08	4.36E-09	1.88E-08
79	2.90	2.62E-18	0.	4.93E-17	4.59E-13	1.01E-17	0.	0.	3.41E-12	2.91E-09	1.28E-08	4.69E-09	2.04E-08
80	2.80	2.67E-18	0.	2.36E-17	2.33E-13	6.61E-18	0.	0.	3.42E-12	3.24E-09	1.39E-08	5.06E-09	2.22E-08
81	2.70	1.65E-18	0.	1.09E-17	3.75E-13	3.41E-18	0.	0.	3.42E-12	3.62E-09	1.50E-08	5.26E-09	2.09E-08
82	2.60	7.38E-19	0.	5.46E-18	3.57E-14	1.43E-18	0.	0.	3.42E-12	4.05E-09	1.63E-08	5.46E-09	2.20E-08
83	2.50	5.07E-20	0.	6.30E-19	3.18E-14	3.30E-19	0.	0.	3.42E-12	4.57E-09	1.09E-08	5.85E-09	1.83E-08
84	2.40	0.	3.22E-17	0.	2.97E-14	3.43E-20	0.	0.	3.42E-12	5.17E-09	1.35E-08	6.30E-09	2.22E-08
85	2.30	0.	1.17E-16	0.	0.	0.	0.	0.	3.39E-12	5.88E-09	1.64E-08	6.19E-09	2.64E-08
86	2.20	0.	2.78E-16	0.	0.	0.	0.	0.	3.38E-12	6.73E-09	1.93E-08	5.04E-09	3.11E-08
87	2.10	0.	3.31E-16	0.	0.	0.	0.	0.	3.36E-12	7.75E-09	2.25E-08	5.89E-09	3.62E-08
88	2.00	0.	6.06E-16	0.	0.	0.	0.	0.	3.26E-12	8.99E-09	2.57E-08	6.75E-09	4.15E-08
89	1.90	0.	9.21E-16	0.	0.	0.	0.	0.	3.13E-12	1.05E-08	2.92E-08	7.71E-09	4.74E-08
90	1.80	0.	7.58E-16	0.	0.	0.	0.	0.	2.99E-12	1.24E-08	3.47E-08	9.27E-09	5.64E-08
91	1.70	0.	8.99E-16	0.	0.	0.	0.	0.	2.82E-12	1.47E-08	4.14E-08	1.12E-08	6.74E-08
92	1.60	0.	6.48E-16	0.	0.	0.	0.	0.	2.82E-12	1.77E-08	4.82E-08	1.25E-08	7.84E-08
93	1.50	0.	7.73E-16	0.	0.	0.	0.	0.	2.39E-12	2.16E-08	5.71E-08	1.46E-08	9.32E-08
94	1.40	0.	7.83E-16	0.	0.	0.	0.	0.	1.08E-12	2.66E-08	6.92E-08	1.25E-08	8.84E-08
95	1.30	0.	5.95E-16	0.	0.	0.	0.	0.	0.	3.33E-08	7.07E-08	1.80E-08	1.22E-07
96	1.20	0.	5.77E-16	0.	0.	0.	0.	0.	0.	4.25E-08	9.60E-08	2.21E-08	1.61E-07
97	1.10	0.	5.19E-16	0.	0.	0.	1.96E-21	0.	0.	5.56E-08	1.17E-07	2.81E-08	2.01E-07
98	1.00	0.	4.77E-16	0.	0.	0.	2.32E-20	0.	0.	7.48E-08	1.42E-07	3.41E-08	2.51E-07
99	0.90	0.	3.91E-16	0.	0.	0.	2.68E-20	0.	0.	1.03E-07	1.62E-07	3.84E-08	3.04E-07
100	0.80	0.	1.84E-16	0.	0.	0.	5.36E-19	0.	0.	1.48E-07	1.86E-07	4.44E-08	3.78E-07
101	0.70	0.	4.55E-17	0.	0.	0.	4.17E-19	0.	0.	2.21E-07	1.69E-07	3.73E-08	4.28E-07
102	0.60	0.	5.31E-18	0.	0.	0.	1.52E-18	0.	0.	3.56E-07	1.90E-07	4.22E-08	5.88E-07

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON U2 S-R		U2 S-R	TEMPERATURE		DENSITY (GM/CC)	1.293E-09		(1.0E-06 NORMAL)		TOTAL AIR	
ENERGY	PAVDS	CENT.	N2 P-H	NO	NO	NO	PHOTO-DET (IONS)	FREE-FREE	N	P.E.	P.E.
E.V.			NO. 1	RETA	GAMMA	2			P.E.		
1 11.70 0.		0.	7.23E-19	0.	0.	0.	6.24E-15	5.87E-13	1.48E-10	4.56E-11	1.95E-10
2 11.60 0.		0.	6.41E-19	0.	0.	0.	6.24E-15	6.04E-13	1.49E-10	4.55E-11	1.95E-10
3 11.50 0.		0.	6.37E-19	0.	0.	0.	6.25E-15	6.21E-13	1.50E-10	4.54E-11	1.96E-10
4 11.40 0.		0.	5.90E-19	0.	0.	0.	6.76E-15	6.39E-13	1.50E-10	4.53E-11	1.96E-10
5 11.30 0.		0.	5.01E-19	0.	0.	0.	6.27E-15	6.58E-13	1.51E-10	4.52E-11	1.97E-10
6 11.20 0.		0.	5.08E-19	0.	0.	0.	6.28E-15	6.78E-13	1.51E-10	4.51E-11	1.97E-10
7 11.10 0.		0.	4.70E-19	0.	0.	0.	6.28E-15	6.98E-13	1.52E-10	4.49E-11	1.97E-10
8 11.00 0.		0.	3.98E-19	0.	0.	0.	6.29E-15	7.20E-13	1.52E-10	4.48E-11	1.98E-10
9 9.90 0.		0.	4.06E-19	0.	0.	0.	6.30E-15	7.42E-13	1.52E-10	4.47E-11	1.98E-10
10 9.80 0.		0.	3.72E-19	0.	0.	0.	6.32E-15	7.65E-13	1.53E-10	4.46E-11	1.98E-10
11 9.70 0.		0.	3.11E-19	0.	0.	0.	6.33E-15	7.89E-13	1.53E-10	4.45E-11	1.98E-10
12 9.60 0.		0.	3.35E-19	0.	0.	0.	6.34E-15	8.14E-13	1.54E-10	4.44E-11	1.99E-10
13 9.50 0.		0.	2.76E-19	0.	0.	0.	6.35E-15	8.40E-13	1.54E-10	4.43E-11	1.99E-10
14 9.40 0.		0.	2.55E-19	0.	0.	0.	6.37E-15	8.67E-13	1.54E-10	4.42E-11	1.99E-10
15 9.30 0.		0.	2.59E-19	0.	0.	0.	6.40E-15	8.96E-13	1.54E-10	4.41E-11	1.99E-10
16 9.20 0.		0.	2.05E-19	0.	0.	0.	6.42E-15	9.25E-13	1.54E-10	4.39E-11	1.99E-10
17 9.10 0.		0.	2.10E-19	0.	0.	0.	6.44E-15	9.56E-13	1.54E-10	4.38E-11	1.99E-10
18 9.00 0.		0.	1.86E-19	0.	0.	0.	6.47E-15	9.89E-13	1.54E-10	4.37E-11	1.99E-10
19 8.90 0.		0.	1.67E-19	0.	0.	0.	6.49E-15	1.02E-12	1.54E-10	4.36E-11	1.99E-10
20 8.80 0.		0.	1.62E-19	0.	0.	0.	6.51E-15	1.06E-12	1.54E-10	4.35E-11	1.99E-10
21 8.70 0.		0.	1.36E-19	0.	0.	0.	6.54E-15	1.09E-12	1.54E-10	4.34E-11	1.99E-10
22 8.60 0.		0.	1.39E-19	0.	0.	0.	6.56E-15	1.13E-12	1.54E-10	4.33E-11	1.99E-10
23 8.50 0.		0.	1.17E-19	0.	0.	0.	6.58E-15	1.17E-12	1.54E-10	4.32E-11	1.99E-10
24 8.40 0.		0.	1.15E-19	0.	0.	0.	6.62E-15	1.22E-12	1.54E-10	4.31E-11	1.99E-10
25 8.30 0.		0.	9.42E-20	0.	0.	0.	6.65E-15	1.26E-12	1.54E-10	4.30E-11	1.99E-10
26 8.20 0.		0.	9.41E-20	0.	0.	0.	6.69E-15	1.31E-12	1.54E-10	4.29E-11	1.99E-10
27 8.10 0.		0.	7.86E-20	0.	0.	0.	6.72E-15	1.36E-12	1.54E-10	4.28E-11	1.99E-10
28 8.00 0.		0.	7.79E-20	0.	0.	0.	6.75E-15	1.41E-12	1.54E-10	4.27E-11	1.99E-10
29 7.90 0.		0.	6.50E-20	0.	0.	0.	6.79E-15	1.46E-12	1.54E-10	4.26E-11	1.99E-10
30 7.80 0.		0.	6.63E-20	0.	0.	0.	6.82E-15	1.52E-12	1.54E-10	4.25E-11	1.99E-10
31 7.70 0.		0.	5.64E-20	0.	0.	0.	6.86E-15	1.58E-12	1.54E-10	4.24E-11	1.99E-10
32 7.60 0.		0.	5.24E-20	0.	0.	0.	6.89E-15	1.64E-12	1.54E-10	4.23E-11	1.99E-10
33 7.50 0.		0.	4.72E-20	0.	0.	0.	6.93E-15	1.71E-12	1.54E-10	4.22E-11	1.99E-10
34 7.40 0.		0.	4.14E-20	0.	0.	0.	6.97E-15	1.78E-12	1.54E-10	4.21E-11	1.99E-10
35 7.30 0.		0.	3.83E-20	0.	0.	0.	7.00E-15	1.85E-12	1.54E-10	4.20E-11	1.99E-10
36 7.20 0.		0.	3.16E-20	0.	0.	0.	7.04E-15	1.93E-12	1.54E-10	4.19E-11	1.99E-10
37 7.10 0.		0.	3.16E-20	0.	0.	0.	7.10E-15	2.02E-12	1.54E-10	4.18E-11	1.99E-10
38 7.00 1.6JE-23		0.	2.83E-20	0.	0.	0.	7.16E-15	2.11E-12	1.54E-10	4.17E-11	1.99E-10
39 6.90 3.07E-23		0.	2.53E-20	0.	0.	0.	7.22E-15	2.20E-12	1.54E-10	4.16E-11	1.99E-10
40 6.80 2.6E-23		0.	2.37E-20	0.	0.	0.	7.27E-15	2.30E-12	1.54E-10	4.15E-11	1.99E-10
41 6.70 1.86E-23		0.	2.02E-20	0.	0.	0.	7.33E-15	2.40E-12	1.54E-10	4.14E-11	1.99E-10
42 6.60 1.12E-23		0.	1.76E-20	0.	0.	0.	7.39E-15	2.52E-12	1.54E-10	4.13E-11	1.99E-10
43 6.50 6.31E-24		0.	1.35E-20	0.	0.	0.	7.45E-15	2.63E-12	1.54E-10	4.12E-11	1.99E-10
44 6.40 3.5E-24		0.	8.92E-21	0.	0.	0.	7.51E-15	2.76E-12	1.54E-10	4.11E-11	1.99E-10
45 6.30 1.94E-24		0.	5.29E-21	0.	0.	0.	7.56E-15	2.89E-12	1.54E-10	4.10E-11	1.99E-10
46 6.20 4.79E-25		0.	2.79E-21	0.	0.	0.	7.62E-15	3.04E-12	1.54E-10	4.09E-11	1.99E-10
47 6.10 3.9E-25		0.	1.26E-21	0.	0.	0.	7.68E-15	3.19E-12	1.54E-10	4.08E-11	1.99E-10
48 6.00 1.6E-25		0.	3.10E-22	0.	0.	0.	7.74E-15	3.35E-12	1.54E-10	4.07E-11	1.99E-10
49 5.90 3.87E-26		0.	2.21E-23	0.	0.	0.	7.74E-15	3.53E-12	1.54E-10	4.06E-11	1.99E-10
50 5.80 4.91E-27		0.	5.52E-25	0.	0.	0.	7.74E-15	3.71E-12	1.54E-10	4.05E-11	1.99E-10
51 5.70 3.61E-28		0.	0.	0.	0.	0.	7.16E-15	3.92E-12	1.54E-10	4.04E-11	1.99E-10

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-09 (1.0E-06 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR				
PHOTOV O2 S-R	ENERGY	1ST POS.	2ND POS.	1ST NEG.	N2+	NC	RETA	GAMMA	NO	VIB-RUT	NO	PHOTO-DET (IONS)	P.E.	O	P.E.	
52	5.60	1.61E-29	0.	0.	0.	3.35E-21	2.21E-20	0.	0.	0.	0.	6.66E-15	4.13E-12	5.51E-11	5.26E-11	
53	5.50	0.	0.	0.	0.	4.09E-21	2.07E-20	0.	0.	0.	0.	6.69E-15	4.36E-12	5.61E-11	5.33E-11	
54	5.40	0.	0.	0.	0.	3.62E-21	1.56E-20	0.	0.	0.	0.	6.73E-15	4.61E-12	5.73E-11	5.41E-11	
55	5.30	0.	0.	0.	0.	3.72E-21	2.09E-20	0.	0.	0.	0.	6.77E-15	4.88E-12	5.86E-11	5.50E-11	
56	5.20	0.	0.	0.	0.	3.94E-21	1.40E-20	0.	0.	0.	0.	6.81E-15	5.17E-12	5.99E-11	5.61E-11	
57	5.10	0.	0.	0.	0.	3.89E-21	1.85E-20	0.	0.	0.	0.	6.87E-15	5.48E-12	6.15E-11	5.73E-11	
58	5.00	2.07E-22	0.	0.	0.	3.50E-21	1.67E-20	0.	0.	0.	0.	6.93E-15	5.82E-12	6.34E-11	5.84E-11	
59	4.90	4.81E-22	0.	0.	0.	3.83E-21	1.76E-20	0.	0.	0.	0.	6.99E-15	6.18E-12	6.53E-11	5.96E-11	
60	4.80	8.85E-22	0.	0.	0.	4.07E-21	1.63E-20	0.	0.	0.	0.	7.04E-15	6.58E-12	6.74E-11	6.08E-11	
61	4.70	1.14E-21	0.	0.	0.	3.98E-21	1.45E-20	0.	0.	0.	0.	7.10E-15	7.01E-12	6.95E-11	6.24E-11	
62	4.60	1.54E-21	0.	0.	0.	4.04E-21	1.33E-20	0.	0.	0.	0.	7.16E-15	7.48E-12	7.20E-11	6.39E-11	
63	4.50	1.59E-21	0.	0.	0.	3.60E-21	9.81E-21	0.	0.	0.	0.	7.22E-15	7.99E-12	7.52E-11	6.55E-11	
64	4.40	1.64E-21	0.	0.	0.	3.57E-21	6.94E-21	0.	0.	0.	0.	7.27E-15	8.55E-12	7.84E-11	6.55E-11	
65	4.30	1.52E-21	0.	0.	0.	3.32E-21	4.18E-21	0.	0.	0.	0.	7.33E-15	9.17E-12	8.18E-11	6.26E-11	
66	4.20	1.45E-21	0.	0.	0.	3.47E-21	3.10E-21	0.	0.	0.	0.	7.39E-15	9.84E-12	8.52E-11	1.87E-11	
67	4.10	1.28E-21	0.	0.	0.	3.31E-21	8.31E-22	0.	0.	0.	0.	7.42E-15	1.06E-11	7.76E-11	1.93E-11	
68	4.00	1.16E-21	0.	0.	0.	3.14E-21	6.35E-22	0.	0.	0.	0.	7.45E-15	1.14E-11	6.08E-11	1.99E-11	
69	3.90	9.61E-22	0.	0.	0.	2.80E-21	2.55E-22	0.	0.	0.	0.	7.42E-15	1.23E-11	6.33E-11	2.05E-11	
70	3.80	1.04E-21	0.	0.	0.	5.14E-20	3.76E-16	0.	0.	0.	0.	7.39E-15	1.33E-11	5.98E-11	2.12E-11	
71	3.70	8.94E-22	0.	0.	0.	5.88E-20	1.19E-16	0.	0.	0.	0.	7.27E-15	1.44E-11	6.25E-11	2.35E-11	
72	3.60	7.91E-22	0.	0.	0.	3.65E-20	7.06E-16	0.	0.	0.	0.	6.81E-15	1.57E-11	6.82E-11	2.61E-11	
73	3.50	7.23E-22	0.	0.	0.	5.14E-20	1.68E-15	0.	0.	0.	0.	6.24E-15	1.71E-11	7.56E-11	2.90E-11	
74	3.40	6.44E-22	0.	0.	0.	2.95E-20	1.84E-16	0.	0.	0.	0.	3.60E-15	1.86E-11	8.48E-11	3.22E-11	
75	3.30	5.07E-22	0.	0.	0.	3.08E-20	8.39E-16	0.	0.	0.	0.	3.60E-15	2.04E-11	9.40E-11	3.54E-11	
76	3.20	4.30E-22	0.	0.	0.	1.90E-20	1.70E-15	0.	0.	0.	0.	3.61E-15	2.24E-11	1.03E-10	3.88E-11	
77	3.10	4.02E-22	0.	0.	0.	1.46E-20	2.88E-16	0.	0.	0.	0.	3.62E-15	2.47E-11	1.13E-10	4.21E-11	
78	3.00	3.51E-22	0.	0.	0.	8.66E-21	8.18E-16	0.	0.	0.	0.	3.63E-15	2.72E-11	1.23E-10	4.55E-11	
79	2.90	2.84E-22	0.	0.	0.	5.27E-21	4.82E-16	0.	0.	0.	0.	3.63E-15	3.02E-11	1.32E-10	4.90E-11	
80	2.80	2.92E-22	0.	0.	0.	2.52E-21	2.44E-16	0.	0.	0.	0.	3.64E-15	3.36E-11	1.44E-10	4.82E-11	
81	2.70	1.85E-22	0.	0.	0.	1.17E-21	3.94E-16	0.	0.	0.	0.	3.64E-15	3.75E-11	1.55E-10	2.37E-11	
82	2.60	8.07E-23	0.	0.	0.	5.84E-22	3.75E-17	0.	0.	0.	0.	3.64E-15	4.20E-11	9.56E-11	2.57E-11	
83	2.50	5.54E-24	0.	0.	0.	6.74E-23	3.34E-17	0.	0.	0.	0.	3.64E-15	4.73E-11	1.13E-10	2.97E-11	
84	2.40	0.	0.	0.	0.	3.44E-21	3.12E-17	0.	0.	0.	0.	3.64E-15	5.35E-11	1.40E-10	3.65E-11	
85	2.30	0.	0.	0.	0.	1.25E-20	0.	0.	0.	0.	0.	3.61E-15	6.09E-11	1.70E-10	4.38E-11	
86	2.20	0.	0.	0.	0.	2.98E-20	0.	0.	0.	0.	0.	3.59E-15	6.97E-11	2.00E-10	5.27E-11	
87	2.10	0.	0.	0.	0.	3.53E-20	0.	0.	0.	0.	0.	3.58E-15	8.03E-11	2.33E-10	6.16E-11	
88	2.00	0.	0.	0.	0.	6.48E-20	0.	0.	0.	0.	0.	3.46E-15	9.31E-11	2.66E-10	7.05E-11	
89	1.90	0.	0.	0.	0.	9.85E-20	0.	0.	0.	0.	0.	3.33E-15	1.09E-10	3.02E-10	8.06E-11	
90	1.80	0.	0.	0.	0.	8.10E-20	0.	0.	0.	0.	0.	3.19E-15	1.28E-10	3.59E-10	9.69E-11	
91	1.70	0.	0.	0.	0.	9.62E-20	0.	0.	0.	0.	0.	3.00E-15	1.53E-10	4.28E-10	1.10E-10	
92	1.60	0.	0.	0.	0.	6.93E-20	0.	0.	0.	0.	0.	2.54E-15	1.83E-10	4.58E-10	1.30E-10	
93	1.50	0.	0.	0.	0.	8.27E-20	0.	0.	0.	0.	0.	1.15E-15	2.23E-10	5.84E-10	1.52E-10	
94	1.40	0.	0.	0.	0.	8.37E-20	0.	0.	0.	0.	0.	0.	2.76E-10	5.09E-10	1.31E-10	9.16E-10
95	1.30	0.	0.	0.	0.	6.36E-20	0.	0.	0.	0.	0.	0.	3.45E-10	7.30E-10	1.88E-10	1.26E-09
96	1.20	0.	0.	0.	0.	6.17E-20	0.	0.	0.	0.	0.	0.	4.40E-10	9.93E-10	2.30E-10	1.66E-09
97	1.10	0.	0.	0.	0.	5.55E-20	0.	0.	0.	0.	0.	0.	5.76E-10	1.21E-09	2.94E-10	2.08E-09
98	1.00	0.	0.	0.	0.	5.10E-20	0.	0.	0.	0.	0.	0.	7.75E-10	1.47E-09	3.57E-10	2.60E-09
99	0.90	0.	0.	0.	0.	4.18E-20	0.	0.	0.	0.	0.	0.	1.07E-09	1.67E-09	4.02E-10	3.15E-09
100	0.80	0.	0.	0.	0.	1.95E-20	0.	0.	0.	0.	0.	0.	1.53E-09	1.53E-09	3.39E-10	3.39E-09
101	0.70	0.	0.	0.	0.	4.86E-21	0.	0.	0.	0.	0.	0.	2.29E-09	1.74E-09	3.90E-10	4.43E-09
102	0.60	0.	0.	0.	0.	5.67E-22	0.	0.	0.	0.	0.	0.	3.69E-09	1.96E-09	4.40E-10	6.09E-09



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		14000.		DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)		NO		PHOTO-DET (IONS)		N		P.E.		TOTAL AIR	
PHOTON U2 S-R	NO. 1	Q2 S-R	NO. 1	TEMPERATURE (DEGREES K)	14000.	NO	GAMMA	NO	RETA	NO	NO	FREE-FREE	P.E.	NO	P.E.
ENERGY	NO. 1	CONT.	NO. 1	TEMPERATURE (DEGREES K)	14000.	NO	GAMMA	NO	RETA	NO	NO	FREE-FREE	P.E.	NO	P.E.
E.V.	NO. 1	CONT.	NO. 1	TEMPERATURE (DEGREES K)	14000.	NO	GAMMA	NO	RETA	NO	NO	FREE-FREE	P.E.	NO	P.E.
1 10.70 0.	8.36E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.	7.46E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.	7.45E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.	6.94E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.	5.94E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.	6.05E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.	5.63E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.	4.82E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	4.92E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	4.54E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	3.83E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	4.12E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	3.44E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	3.19E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	3.25E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	2.61E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	2.67E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	2.38E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	2.16E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	2.10E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	1.78E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	1.82E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	1.55E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	1.53E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	1.27E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	1.27E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	1.07E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	1.07E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	8.96E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	9.18E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	7.88E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.	7.37E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	6.69E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	5.91E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	5.50E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	4.87E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	4.60E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.	4.14E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.	3.73E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.	3.52E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.	3.02E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.	2.66E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.	2.06E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.	1.38E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.	8.29E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.	4.44E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.	2.02E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.	5.03E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.	3.59E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.	8.99E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.





# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-03 (1.0E 00 NORMAL)		FREE-FREE		N		O		TOTAL AIR	
PHOTON U2 S-K		N2		N2+		N2		N2		N2		N2	
ENERGY BANDS		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIR-ROT	
		NO		NO		NO		NO		NO		NO	
		D-0		PHOTO-DET (IONS)		P.E.		P.E.		P.E.		P.E.	
22	5.60 1.12E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
53	5.50 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
54	5.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	5.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	5.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	5.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	5.00 1.42E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	4.90 3.47E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	4.80 6.3E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	4.70 8.36E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	4.60 1.13E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
63	4.50 1.16E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
64	4.40 1.22E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
65	4.30 1.13E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
66	4.20 1.04E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
67	4.10 9.67E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
68	4.00 8.76E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
69	3.90 7.33E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	3.80 7.96E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	3.70 6.91E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
72	3.60 6.14E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
73	3.50 5.65E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
74	3.40 5.07E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
75	3.30 4.01E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
76	3.20 3.43E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
77	3.10 3.23E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
78	3.00 2.84E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
79	2.90 2.33E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	2.80 2.40E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
81	2.70 1.50E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82	2.60 6.8E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
83	2.50 4.70E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
84	2.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85	2.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
86	2.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87	2.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
88	2.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
89	1.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90	1.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
91	1.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92	1.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
93	1.50 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
94	1.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

**TOTAL AIR**

[illegible]

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 14000. DENSITY (GM/CC) 1.293E-04 (1.0E-01 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	NO VIR-ROT	NO 2	PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	U P.E.	TOTAL AIR
52	5.60 1.02E-14	0.	0.	3.05E-06	1.96E-05	0.	0.	1.81E-03	4.93E-04	5.55E-03	3.08E-03	1.10E-02
53	5.50 0.	0.	0.	3.66E-06	1.83E-05	0.	0.	1.82E-03	5.21E-04	5.66E-03	3.12E-03	1.11E-02
54	5.40 0.	0.	0.	3.27E-06	1.41E-05	0.	0.	1.83E-03	5.51E-04	5.79E-03	3.17E-03	1.14E-02
55	5.30 0.	0.	0.	3.36E-06	1.85E-05	0.	0.	1.84E-03	5.83E-04	5.92E-03	3.22E-03	1.16E-02
56	5.20 0.	0.	0.	3.57E-06	1.29E-05	0.	0.	1.86E-03	6.17E-04	6.06E-03	3.28E-03	1.18E-02
57	5.10 0.	0.	0.	3.53E-06	1.68E-05	0.	0.	1.87E-03	6.54E-04	6.23E-03	3.35E-03	1.21E-02
58	5.00 1.33E-07	0.	0.	3.19E-06	1.54E-05	0.	0.	1.89E-03	6.95E-04	6.42E-03	3.41E-03	1.24E-02
59	4.90 3.15E-07	0.	0.	3.52E-06	1.63E-05	0.	0.	1.90E-03	7.38E-04	6.62E-03	3.48E-03	1.28E-02
60	4.80 5.77E-07	0.	0.	3.75E-06	1.52E-05	0.	0.	1.92E-03	7.85E-04	6.84E-03	3.55E-03	1.31E-02
61	4.70 7.6E-07	0.	0.	3.69E-06	1.36E-05	0.	0.	1.93E-03	8.37E-04	7.06E-03	3.64E-03	1.35E-02
62	4.60 1.02E-06	0.	0.	3.75E-06	1.24E-05	0.	0.	1.95E-03	8.93E-04	7.32E-03	3.73E-03	1.39E-02
63	4.50 1.06E-06	0.	0.	3.37E-06	9.23E-06	0.	0.	1.97E-03	9.54E-04	7.65E-03	3.83E-03	1.44E-02
64	4.40 1.11E-06	0.	2.79E-06	3.35E-06	6.48E-06	0.	0.	1.98E-03	1.02E-03	7.99E-03	3.92E-03	1.49E-02
65	4.30 1.03E-06	0.	8.91E-06	3.14E-06	3.95E-06	0.	0.	2.00E-03	1.09E-03	8.35E-03	4.02E-03	1.55E-02
66	4.20 9.43E-07	0.	2.65E-05	3.29E-06	2.89E-06	0.	0.	2.01E-03	1.17E-03	8.71E-03	4.12E-03	1.61E-02
67	4.10 8.76E-07	0.	9.16E-05	3.16E-06	7.81E-07	0.	0.	2.02E-03	1.26E-03	9.08E-03	4.22E-03	1.66E-02
68	4.00 7.96E-07	0.	1.31E-04	3.01E-06	5.95E-07	0.	0.	2.03E-03	1.36E-03	9.44E-03	4.30E-03	1.73E-02
69	3.90 6.65E-07	0.	5.95E-05	2.71E-06	2.36E-07	0.	0.	2.02E-03	1.47E-03	9.81E-03	4.34E-03	1.81E-02
70	3.80 7.24E-07	0.	9.22E-05	2.90E-06	0.	0.	0.	2.01E-03	1.59E-03	9.00E-03	4.39E-03	1.92E-02
71	3.70 6.27E-07	0.	1.03E-04	2.39E-06	0.	0.	0.	1.98E-03	1.72E-03	7.17E-03	4.53E-03	2.06E-02
72	3.60 5.58E-07	0.	6.61E-05	2.23E-04	2.59E-06	0.	0.	1.86E-03	1.87E-03	7.76E-03	4.70E-03	2.25E-02
73	3.50 5.13E-07	0.	9.14E-05	5.03E-04	1.98E-06	0.	0.	1.70E-03	2.04E-03	8.05E-03	4.88E-03	2.43E-02
74	3.40 4.61E-07	0.	5.39E-05	5.98E-05	2.21E-06	0.	0.	9.80E-04	2.23E-03	9.01E-03	5.08E-03	2.61E-02
75	3.30 3.65E-07	0.	5.60E-05	2.61E-04	1.72E-06	0.	0.	9.81E-04	2.44E-03	9.98E-03	5.29E-03	2.80E-02
76	3.20 3.11E-07	0.	3.52E-05	5.02E-04	1.79E-06	0.	0.	9.83E-04	2.68E-03	1.10E-02	5.50E-03	3.00E-02
77	3.10 2.93E-07	0.	2.71E-05	9.40E-05	1.66E-05	0.	0.	9.85E-04	2.93E-03	1.20E-02	5.72E-03	3.20E-02
78	3.00 2.58E-07	0.	1.62E-05	2.53E-04	1.53E-06	0.	0.	9.88E-04	3.25E-03	1.30E-02	5.94E-03	3.40E-02
79	2.90 2.12E-07	0.	9.95E-06	1.46E-04	1.13E-06	0.	0.	9.89E-04	3.61E-03	1.40E-02	6.16E-03	3.60E-02
80	2.80 2.18E-07	0.	4.77E-06	7.92E-05	7.54E-07	0.	0.	9.91E-04	4.01E-03	1.52E-02	6.41E-03	3.80E-02
81	2.70 1.34E-07	0.	2.21E-06	1.22E-04	3.96E-07	0.	0.	9.91E-04	4.48E-03	1.65E-02	6.69E-03	4.00E-02
82	2.60 6.1E-08	0.	1.10E-06	1.17E-05	1.68E-07	0.	0.	9.91E-04	5.02E-03	1.79E-02	6.97E-03	4.20E-02
83	2.50 4.27E-09	0.	1.24E-07	1.07E-05	3.91E-08	0.	0.	9.91E-04	5.65E-03	2.03E-02	7.26E-03	4.40E-02
84	2.40 0.	6.17E-06	9.62E-06	4.10E-09	0.	0.	0.	9.91E-04	6.40E-03	2.36E-02	7.64E-03	4.60E-02
85	2.30 0.	2.14E-05	0.	0.	0.	0.	0.	9.83E-04	7.28E-03	2.86E-02	8.10E-03	4.80E-02
86	2.20 0.	5.24E-05	0.	0.	0.	0.	0.	9.79E-04	8.34E-03	3.20E-02	8.56E-03	5.00E-02
87	2.10 0.	6.02E-05	0.	0.	0.	0.	0.	9.75E-04	9.61E-03	3.57E-02	9.04E-03	5.20E-02
88	2.00 0.	1.13E-04	0.	0.	0.	0.	0.	9.44E-04	1.11E-02	3.93E-02	9.56E-03	5.40E-02
89	1.90 0.	1.63E-04	0.	0.	0.	0.	0.	9.08E-04	1.30E-02	4.33E-02	1.01E-02	5.60E-02
90	1.80 0.	1.35E-04	0.	0.	0.	0.	0.	8.68E-04	1.53E-02	4.77E-02	1.06E-02	5.80E-02
91	1.70 0.	1.59E-04	0.	0.	0.	0.	0.	8.18E-04	1.83E-02	5.25E-02	1.11E-02	6.00E-02
92	1.60 0.	1.16E-04	0.	0.	0.	0.	0.	6.92E-04	2.20E-02	5.72E-02	1.16E-02	6.20E-02
93	1.50 0.	1.37E-04	0.	0.	0.	0.	0.	3.15E-04	2.68E-02	6.19E-02	1.21E-02	6.40E-02
94	1.40 0.	1.37E-04	0.	0.	0.	0.	0.	0.	3.30E-02	6.70E-02	1.26E-02	6.60E-02
95	1.30 0.	1.05E-04	0.	0.	0.	0.	0.	0.	4.13E-02	1.12E-01	1.31E-02	6.80E-02
96	1.20 0.	1.01E-04	0.	0.	0.	0.	0.	0.	5.29E-02	1.17E-01	1.36E-02	7.00E-02
97	1.10 0.	9.25E-05	0.	0.	0.	0.	0.	0.	6.93E-02	1.44E-01	1.41E-02	7.20E-02
98	1.00 0.	8.48E-05	0.	0.	0.	0.	0.	0.	9.31E-02	1.74E-01	1.46E-02	7.40E-02
99	0.90 0.	6.96E-05	0.	0.	0.	0.	0.	0.	1.28E-01	1.99E-01	1.51E-02	7.60E-02
100	0.80 0.	3.28E-05	0.	0.	0.	0.	0.	0.	1.83E-01	2.29E-01	1.56E-02	7.80E-02
101	0.70 0.	8.01E-06	0.	0.	0.	0.	0.	0.	2.76E-01	2.51E-01	1.61E-02	8.00E-02
102	0.60 0.	1.05E-06	0.	0.	0.	0.	0.	0.	4.43E-01	2.80E-01	1.66E-02	8.20E-02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		10.0E-03 NORMAL		O- PHOTO-DET (IONS)		N P.E.		O P.E.		TOTAL AIR	
PHOTON U2 S-R	U2 S-R	CCNT.	N2 B-H	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
ENERGY BANDS	NO. 1			RETA	GAMMA								
E.V.													
1 1.70	0.	0.	5.31E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 1.60	0.	0.	4.74E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 1.50	0.	0.	4.74E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 1.40	0.	0.	4.41E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 1.30	0.	0.	3.77E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 1.20	0.	0.	3.85E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 1.10	0.	0.	3.58E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 1.00	0.	0.	3.06E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90	0.	0.	3.12E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80	0.	0.	2.88E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70	0.	0.	2.43E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60	0.	0.	2.62E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50	0.	0.	2.18E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40	0.	0.	2.03E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30	0.	0.	2.07E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20	0.	0.	1.66E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10	0.	0.	1.70E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00	0.	0.	1.51E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90	0.	0.	1.37E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80	0.	0.	1.34E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70	0.	0.	1.13E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60	0.	0.	1.16E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50	0.	0.	9.88E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40	0.	0.	9.72E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30	0.	0.	8.05E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20	0.	0.	8.06E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10	0.	0.	6.80E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00	0.	0.	6.77E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90	0.	0.	5.69E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80	0.	0.	5.83E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70	0.	0.	5.01E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60	0.	0.	4.68E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50	0.	0.	4.25E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40	0.	0.	3.75E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30	0.	0.	3.49E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20	0.	0.	3.10E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10	0.	0.	2.92E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00	0.	0.	2.63E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90	0.	0.	2.37E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80	0.	0.	2.24E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70	0.	0.	1.92E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60	0.	0.	1.69E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50	0.	0.	1.31E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40	0.	0.	8.76E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30	0.	0.	5.27E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20	0.	0.	2.82E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10	0.	0.	1.28E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00	0.	0.	3.19E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90	0.	0.	2.28E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80	0.	0.	2.17E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70	0.	0.	1.6.E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 14000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON U2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N2 BETA	N2 GAMMA	N2 VIB-ROT	NO	PHOTO-DET (IONS)	FREE-FREE N	P.E.	O P.E.	TOTAL AIM
52	5.60	7.14E-17	0.	1.92E-08	1.26E-07	0.	0.	4.23E-05	3.81E-05	4.23E-04	2.59E-04	7.63E-04
53	5.50	0.	0.	2.34E-08	1.17E-07	0.	0.	4.25E-05	4.02E-05	4.32E-04	2.62E-04	7.76E-04
54	5.40	0.	0.	2.09E-08	9.00E-08	0.	0.	4.27E-05	4.25E-05	4.42E-04	2.66E-04	7.93E-04
55	5.30	0.	0.	2.15E-08	1.19E-07	0.	0.	4.30E-05	4.50E-05	4.52E-04	2.70E-04	8.10E-04
56	5.20	0.	0.	2.28E-08	8.23E-08	0.	0.	4.33E-05	4.76E-05	4.62E-04	2.75E-04	8.29E-04
57	5.10	0.	0.	2.26E-08	1.08E-07	0.	0.	4.36E-05	5.05E-05	4.75E-04	2.81E-04	8.50E-04
58	5.00	9.35E-13	0.	2.04E-08	9.83E-08	0.	0.	4.40E-05	5.36E-05	4.90E-04	2.86E-04	8.73E-04
59	4.90	2.22E-09	0.	2.25E-08	1.05E-07	0.	0.	4.44E-05	5.70E-05	5.05E-04	2.92E-04	8.98E-04
60	4.80	4.06E-09	0.	2.40E-08	9.72E-08	0.	0.	4.47E-05	6.06E-05	5.21E-04	2.98E-04	9.25E-04
61	4.70	5.35E-09	0.	2.36E-08	8.69E-08	0.	0.	4.51E-05	6.46E-05	5.38E-04	3.05E-04	9.54E-04
62	4.60	7.21E-09	0.	2.40E-08	7.94E-08	0.	0.	4.55E-05	6.89E-05	5.59E-04	3.13E-04	9.86E-04
63	4.50	7.44E-09	0.	2.16E-08	5.91E-08	0.	0.	4.58E-05	7.37E-05	5.84E-04	3.21E-04	1.02E-03
64	4.40	7.80E-09	0.	2.14E-08	4.14E-08	0.	0.	4.62E-05	7.88E-05	6.09E-04	3.29E-04	1.06E-03
65	4.30	7.24E-09	0.	2.01E-08	2.53E-08	0.	0.	4.66E-05	8.45E-05	6.37E-04	3.37E-04	1.11E-03
66	4.20	6.64E-09	0.	2.10E-08	1.85E-08	0.	0.	4.69E-05	9.07E-05	6.65E-04	3.46E-04	1.15E-03
67	4.10	6.18E-09	0.	2.02E-08	5.00E-09	0.	0.	4.71E-05	9.76E-05	6.93E-04	3.50E-04	1.19E-03
68	4.00	5.61E-09	0.	1.92E-08	3.81E-09	0.	0.	4.73E-05	1.05E-04	7.20E-04	1.09E-04	9.82E-04
69	3.90	4.68E-09	0.	3.46E-07	4.75E-07	0.	0.	4.71E-05	1.13E-04	6.72E-04	1.12E-04	9.45E-04
70	3.80	5.09E-09	0.	5.36E-07	2.38E-06	0.	0.	4.69E-05	1.23E-04	6.86E-04	1.16E-04	9.75E-04
71	3.70	4.41E-09	0.	5.98E-07	8.11E-07	0.	0.	4.62E-05	1.33E-04	5.47E-04	1.29E-04	8.56E-04
72	3.60	3.93E-09	0.	3.84E-07	4.68E-06	0.	0.	4.33E-05	1.45E-04	5.92E-04	1.42E-04	9.27E-04
73	3.50	3.61E-09	0.	5.32E-07	1.05E-05	0.	0.	3.96E-05	1.58E-04	6.14E-04	1.58E-04	9.80E-04
74	3.40	3.24E-09	0.	3.14E-07	1.25E-06	0.	0.	2.28E-05	1.72E-04	6.87E-04	1.75E-04	1.06E-03
75	3.30	2.56E-09	0.	3.26E-07	5.47E-06	0.	0.	2.29E-05	1.88E-04	7.61E-04	1.92E-04	1.17E-03
76	3.20	2.19E-09	0.	2.05E-07	1.05E-05	0.	0.	2.29E-05	2.07E-04	8.36E-04	2.10E-04	1.29E-03
77	3.10	2.06E-09	0.	1.58E-07	1.97E-06	0.	0.	2.30E-05	2.28E-04	9.13E-04	2.28E-04	1.39E-03
78	3.00	1.81E-09	0.	9.44E-08	5.30E-06	0.	0.	2.30E-05	2.51E-04	9.90E-04	2.46E-04	1.52E-03
79	2.90	1.43E-09	0.	5.79E-08	3.07E-06	0.	0.	2.31E-05	2.78E-04	1.07E-03	2.65E-04	1.64E-03
80	2.80	1.53E-09	0.	2.77E-08	1.66E-06	0.	0.	2.31E-05	3.10E-04	1.16E-03	2.86E-04	1.78E-03
81	2.70	9.57E-10	0.	1.29E-08	2.54E-06	0.	0.	2.31E-05	3.46E-04	1.26E-03	3.09E-04	1.94E-03
82	2.60	4.37E-10	0.	6.40E-09	2.45E-07	0.	0.	2.31E-05	3.88E-04	1.36E-03	3.33E-04	2.11E-03
83	2.50	3.07E-11	0.	7.24E-10	2.24E-07	0.	0.	2.31E-05	4.36E-04	1.55E-03	3.73E-04	2.18E-03
84	2.40	0.	3.59E-08	0.	2.01E-07	0.	0.	2.31E-05	4.94E-04	1.80E-03	4.08E-04	2.53E-03
85	2.30	0.	1.25E-07	0.	0.	0.	0.	2.29E-05	5.62E-04	1.42E-03	2.48E-04	2.26E-03
86	2.20	0.	3.05E-07	0.	0.	0.	0.	2.28E-05	6.44E-04	1.68E-03	2.99E-04	2.65E-03
87	2.10	0.	3.50E-07	0.	0.	0.	0.	2.27E-05	7.42E-04	1.96E-03	3.49E-04	3.07E-03
88	2.00	0.	6.55E-07	0.	0.	0.	0.	2.20E-05	8.61E-04	2.24E-03	4.00E-04	3.52E-03
89	1.90	0.	9.50E-07	0.	0.	0.	0.	2.12E-05	1.01E-03	2.54E-03	4.58E-04	4.03E-03
90	1.80	0.	7.86E-07	0.	0.	0.	0.	2.02E-05	1.18E-03	3.03E-03	5.52E-04	4.78E-03
91	1.70	0.	9.25E-07	0.	0.	0.	0.	1.91E-05	1.41E-03	3.62E-03	6.69E-04	5.72E-03
92	1.60	0.	6.73E-07	0.	0.	0.	0.	1.61E-05	1.70E-03	4.21E-03	7.86E-04	6.71E-03
93	1.50	0.	7.96E-07	0.	0.	0.	0.	7.33E-06	2.07E-03	5.38E-03	9.53E-04	8.41E-03
94	1.40	0.	8.00E-07	0.	0.	0.	0.	0.	2.55E-03	6.64E-03	1.13E-03	1.03E-02
95	1.30	0.	6.10E-07	0.	0.	0.	0.	0.	3.19E-03	8.56E-03	1.49E-03	1.32E-02
96	1.20	0.	5.89E-07	0.	0.	0.	0.	0.	4.08E-03	8.90E-03	1.47E-03	1.45E-02
97	1.10	0.	5.38E-07	0.	0.	0.	0.	0.	5.35E-03	1.10E-02	1.85E-03	1.82E-02
98	1.00	0.	4.93E-07	0.	0.	0.	0.	0.	7.19E-03	1.33E-02	2.09E-03	2.26E-02
99	0.90	0.	4.05E-07	0.	0.	0.	0.	0.	9.89E-03	1.52E-02	2.45E-03	2.75E-02
100	0.80	0.	1.91E-07	0.	0.	0.	0.	0.	1.41E-02	1.75E-02	2.82E-03	3.44E-02
101	0.70	0.	4.66E-08	0.	0.	0.	0.	0.	2.13E-02	1.91E-02	3.04E-03	4.34E-02
102	0.60	0.	6.13E-09	0.	0.	0.	0.	0.	3.42E-02	2.14E-02	3.40E-03	5.90E-02





# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R ENERGY BANDS		N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	VIB-ROT	NO	2	PHOTO-DET (IONS)	N P.E.	O P.E.	TOTAL AIR
		TEMPERATURE (DEGREES K) 14000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)											
52	5.60	2.19E-19	0.	0.	4.84E-11	3.17E-10	0.	0.	0.	5.07E-07	1.79E-06	1.93E-05	1.43E-05
53	5.50	0.	0.	0.	5.91E-11	2.96E-10	0.	0.	0.	5.10E-07	1.89E-06	1.97E-05	1.45E-05
54	5.40	0.	0.	0.	5.28E-11	2.27E-10	0.	0.	0.	5.13E-07	2.00E-06	2.02E-05	1.47E-05
55	5.30	0.	0.	0.	5.42E-11	2.99E-10	0.	0.	0.	5.16E-07	2.12E-06	2.06E-05	1.49E-05
56	5.20	0.	0.	0.	5.76E-11	2.08E-10	0.	0.	0.	5.19E-07	2.24E-06	2.11E-05	1.52E-05
57	5.10	0.	0.	0.	5.71E-11	2.72E-10	0.	0.	0.	5.24E-07	2.38E-06	2.17E-05	1.55E-05
58	5.00	2.86E-12	0.	0.	5.16E-11	2.48E-10	0.	0.	0.	5.28E-07	2.52E-06	2.23E-05	1.58E-05
59	4.90	6.79E-12	0.	0.	5.68E-11	2.64E-10	0.	0.	0.	5.32E-07	2.68E-06	2.30E-05	1.61E-05
60	4.80	1.24E-11	0.	0.	6.05E-11	2.45E-10	0.	0.	0.	5.37E-07	2.85E-06	2.38E-05	1.65E-05
61	4.70	1.64E-11	0.	0.	6.05E-11	2.19E-10	0.	0.	0.	5.41E-07	3.04E-06	2.46E-05	1.69E-05
62	4.60	2.20E-11	0.	0.	6.05E-11	2.00E-10	0.	0.	0.	5.46E-07	3.24E-06	2.55E-05	1.73E-05
63	4.50	2.28E-11	0.	0.	5.44E-11	1.49E-10	0.	0.	0.	5.50E-07	3.47E-06	2.66E-05	1.78E-05
64	4.40	2.39E-11	0.	0.	5.41E-11	1.05E-10	0.	0.	0.	5.54E-07	3.71E-06	2.78E-05	1.82E-05
65	4.30	2.22E-11	0.	0.	5.07E-11	6.37E-11	0.	0.	0.	5.59E-07	3.98E-06	2.91E-05	1.87E-05
66	4.20	2.04E-11	0.	0.	5.31E-11	4.66E-11	0.	0.	0.	5.53E-07	4.27E-06	3.03E-05	1.89E-05
67	4.10	1.89E-11	0.	0.	5.10E-11	1.26E-11	0.	0.	0.	5.65E-07	4.59E-06	3.16E-05	1.75E-05
68	4.00	1.72E-11	0.	0.	4.86E-11	9.61E-12	0.	0.	0.	5.68E-07	4.95E-06	3.29E-05	1.62E-05
69	3.90	1.43E-11	0.	0.	4.38E-11	3.81E-12	0.	0.	0.	5.65E-07	5.34E-06	3.40E-05	1.62E-05
70	3.80	1.50E-11	0.	0.	4.38E-11	3.81E-12	0.	0.	0.	5.63E-07	5.78E-06	3.40E-05	1.62E-05
71	3.70	1.35E-11	0.	0.	4.38E-11	3.81E-12	0.	0.	0.	5.54E-07	6.27E-06	3.50E-05	1.71E-05
72	3.60	1.20E-11	0.	0.	8.00E-10	4.49E-08	0.	0.	0.	5.19E-07	6.81E-06	3.52E-05	1.88E-05
73	3.50	1.10E-11	0.	0.	1.11E-09	1.01E-07	0.	0.	0.	4.75E-07	7.42E-06	3.80E-05	2.02E-05
74	3.40	9.91E-12	0.	0.	6.53E-10	1.20E-08	0.	0.	0.	2.74E-07	8.10E-06	3.14E-05	1.71E-05
75	3.30	7.84E-12	0.	0.	6.78E-10	5.25E-08	0.	0.	0.	2.75E-07	8.86E-06	3.47E-05	1.06E-05
76	3.20	6.76E-12	0.	0.	4.27E-10	1.01E-07	0.	0.	0.	2.75E-07	9.73E-06	3.82E-05	1.16E-05
77	3.10	6.32E-12	0.	0.	3.28E-10	1.89E-08	0.	0.	0.	2.76E-07	1.07E-05	4.17E-05	1.26E-05
78	3.00	5.55E-12	0.	0.	1.96E-10	5.09E-08	0.	0.	0.	2.76E-07	1.18E-05	4.52E-05	1.36E-05
79	2.90	4.56E-12	0.	0.	1.20E-10	2.94E-08	0.	0.	0.	2.77E-07	1.31E-05	4.88E-05	1.47E-05
80	2.80	4.64E-12	0.	0.	5.77E-11	1.59E-08	0.	0.	0.	2.77E-07	1.46E-05	5.30E-05	1.58E-05
81	2.70	2.93E-12	0.	0.	2.68E-11	2.44E-08	0.	0.	0.	2.77E-07	1.63E-05	5.74E-05	1.71E-05
82	2.60	1.33E-12	0.	0.	1.33E-11	2.35E-09	0.	0.	0.	2.77E-07	1.82E-05	6.23E-05	1.66E-05
83	2.50	9.18E-14	0.	0.	1.51E-12	2.15E-06	0.	0.	0.	2.77E-07	2.05E-05	7.05E-05	1.36E-05
84	2.40	0.	7.47E-11	0.	1.93E-09	6.63E-14	0.	0.	0.	2.77E-07	2.32E-05	7.35E-05	1.15E-05
85	2.30	0.	2.60E-10	0.	0.	0.	0.	0.	0.	2.75E-07	2.65E-05	7.49E-05	1.37E-05
86	2.20	0.	6.34E-10	0.	0.	0.	0.	0.	0.	2.74E-07	3.03E-05	7.67E-05	1.65E-05
87	2.10	0.	7.29E-10	0.	0.	0.	0.	0.	0.	2.73E-07	3.49E-05	8.93E-05	1.93E-05
88	2.00	0.	1.36E-09	0.	0.	0.	0.	0.	0.	2.64E-07	4.05E-05	1.02E-04	2.21E-05
89	1.90	0.	1.99E-09	0.	0.	0.	0.	0.	0.	2.54E-07	4.73E-05	1.16E-04	2.53E-05
90	1.80	0.	1.64E-09	0.	0.	0.	0.	0.	0.	2.43E-07	5.58E-05	1.38E-04	3.05E-05
91	1.70	0.	1.93E-09	0.	0.	0.	0.	0.	0.	2.29E-07	6.64E-05	1.65E-04	3.70E-05
92	1.60	0.	1.40E-09	0.	0.	0.	0.	0.	0.	1.94E-07	7.99E-05	1.92E-04	4.35E-05
93	1.50	0.	1.66E-09	0.	0.	0.	0.	0.	0.	8.80E-08	9.73E-05	2.45E-04	5.27E-05
94	1.40	0.	1.67E-09	0.	0.	0.	0.	0.	0.	0.	1.20E-04	2.86E-04	6.25E-05
95	1.30	0.	1.27E-09	0.	0.	0.	0.	0.	0.	0.	1.50E-04	3.90E-04	7.94E-05
96	1.20	0.	1.23E-09	0.	0.	0.	0.	0.	0.	0.	1.92E-04	5.06E-04	8.15E-05
97	1.10	0.	1.12E-09	0.	0.	0.	0.	0.	0.	0.	2.52E-04	6.01E-04	1.02E-04
98	1.00	0.	1.03E-09	0.	0.	0.	0.	0.	0.	0.	3.38E-04	6.06E-04	1.15E-04
99	0.90	0.	8.43E-10	0.	0.	0.	0.	0.	0.	0.	4.66E-04	6.92E-04	1.36E-04
100	0.80	0.	3.97E-10	0.	0.	0.	0.	0.	0.	0.	6.65E-04	7.96E-04	1.56E-04
101	0.70	0.	9.70E-11	0.	0.	0.	0.	0.	0.	0.	1.00E-03	8.72E-04	1.68E-04
102	0.60	0.	1.28E-11	0.	0.	0.	0.	0.	0.	0.	1.61E-03	7.92E-04	1.42E-04



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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		( 1.0E-06 NORMAL)		O- PHOTO-DET (IONS)		N P.E.		O P.E.		TOTAL AIR	
PHOTO-ENERGY BANDS	02 S-K	02 S-K	02 S-K	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10
10.70	0.	0.	0.	5.11E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
10.60	0.	0.	0.	4.56E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
10.50	0.	0.	0.	4.56E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
10.40	0.	0.	0.	4.25E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
10.30	0.	0.	0.	3.63E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
10.20	0.	0.	0.	3.70E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
10.10	0.	0.	0.	3.44E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
10.00	0.	0.	0.	2.95E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
9.90	0.	0.	0.	3.01E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
9.80	0.	0.	0.	2.77E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
9.70	0.	0.	0.	2.34E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
9.60	0.	0.	0.	2.52E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
9.50	0.	0.	0.	2.10E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
9.40	0.	0.	0.	1.95E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
9.30	0.	0.	0.	1.99E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
9.20	0.	0.	0.	1.60E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
9.10	0.	0.	0.	1.63E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
9.00	0.	0.	0.	1.46E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
8.90	0.	0.	0.	1.32E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
8.80	0.	0.	0.	1.29E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
8.70	0.	0.	0.	1.09E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
8.60	0.	0.	0.	1.11E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.
8.50	0.	0.	0.	9.51E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
8.40	0.	0.	0.	9.36E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
8.30	0.	0.	0.	7.74E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
8.20	0.	0.	0.	7.76E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
8.10	0.	0.	0.	6.54E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
8.00	0.	0.	0.	6.51E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
7.90	0.	0.	0.	5.48E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
7.80	0.	0.	0.	5.62E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
7.70	0.	0.	0.	4.82E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
7.60	0.	0.	0.	4.51E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
7.50	0.	0.	0.	4.09E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
7.40	0.	0.	0.	3.61E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
7.30	0.	0.	0.	3.36E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
7.20	0.	0.	0.	2.98E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
7.10	0.	0.	0.	2.81E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
7.00	1.39E-24	0.	0.	2.53E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.90	2.68E-24	0.	0.	2.28E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.80	2.29E-24	0.	0.	2.15E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.70	1.64E-24	0.	0.	1.85E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.60	9.89E-25	0.	0.	1.62E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.50	5.63E-25	0.	0.	1.26E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.40	3.16E-25	0.	0.	8.43E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.30	1.80E-25	0.	0.	5.07E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.20	7.94E-26	0.	0.	2.71E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.10	3.64E-26	0.	0.	1.24E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.00	1.44E-26	0.	0.	3.07E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.
5.90	3.57E-27	0.	0.	2.20E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.
5.80	4.55E-28	0.	0.	5.50E-26	0.	0.	0.	0.	0.	0.	0.	0.	0.
5.70	3.35E-29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)			DENSITY (GM/CC)			1.293E-09 ( 1.0E-06 NORMAL)				
PHOTOON ENERGY BANDS E.V.	02 S-K CONT.	N2 B-H NO. 1	NO RETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	N P.E.	O P.E.	TOTAL AIR	
1 10.70 0.	0.	5.11E-20	0.	0.	0.	1.86E-15	5.72E-13	1.10E-10	3.36E-11	1.45E-10
2 10.60 0.	0.	4.56E-20	0.	0.	0.	1.87E-15	5.89E-13	1.11E-10	3.35E-11	1.45E-10
3 10.50 0.	0.	4.56E-20	0.	0.	0.	1.87E-15	6.06E-13	1.12E-10	3.34E-11	1.46E-10
4 10.40 0.	0.	4.25E-20	0.	0.	0.	1.87E-15	6.24E-13	1.12E-10	3.33E-11	1.46E-10
5 10.30 0.	0.	3.63E-20	0.	0.	0.	1.87E-15	6.42E-13	1.12E-10	3.32E-11	1.46E-10
6 10.20 0.	0.	3.70E-20	0.	0.	0.	1.88E-15	6.61E-13	1.12E-10	3.31E-11	1.46E-10
7 10.10 0.	0.	3.44E-20	0.	0.	0.	1.88E-15	6.81E-13	1.13E-10	3.30E-11	1.46E-10
8 10.00 0.	0.	2.95E-20	0.	0.	0.	1.88E-15	7.02E-13	1.13E-10	3.29E-11	1.47E-10
9 9.90 0.	0.	3.01E-20	0.	0.	0.	1.88E-15	7.23E-13	1.13E-10	3.28E-11	1.47E-10
10 9.80 0.	0.	2.77E-20	0.	0.	0.	1.89E-15	7.46E-13	1.14E-10	3.27E-11	1.47E-10
11 9.70 0.	0.	2.34E-20	0.	0.	0.	1.89E-15	7.69E-13	1.14E-10	3.26E-11	1.47E-10
12 9.60 0.	0.	2.52E-20	0.	0.	0.	1.89E-15	7.94E-13	1.14E-10	3.25E-11	1.48E-10
13 9.50 0.	0.	2.10E-20	0.	0.	0.	1.90E-15	8.19E-13	1.15E-10	3.24E-11	1.48E-10
14 9.40 0.	0.	1.95E-20	0.	0.	0.	1.91E-15	8.45E-13	1.17E-11	3.23E-11	1.49E-11
15 9.30 0.	0.	1.99E-20	0.	0.	0.	1.91E-15	8.73E-13	1.17E-11	3.22E-11	1.48E-11
16 9.20 0.	0.	1.60E-20	0.	0.	0.	1.92E-15	9.02E-13	1.17E-11	3.22E-11	1.48E-11
17 9.10 0.	0.	1.63E-20	0.	0.	0.	1.93E-15	9.32E-13	1.17E-11	3.21E-11	1.47E-11
18 9.00 0.	0.	1.46E-20	0.	0.	0.	1.93E-15	9.64E-13	1.18E-11	3.19E-11	1.47E-11
19 8.90 0.	0.	1.32E-20	0.	0.	0.	1.94E-15	9.97E-13	1.18E-11	3.18E-11	1.46E-11
20 8.80 0.	0.	1.29E-20	0.	0.	0.	1.95E-15	1.03E-12	1.18E-11	3.18E-11	1.46E-11
21 8.70 0.	0.	1.09E-20	0.	0.	0.	1.95E-15	1.07E-12	1.19E-11	3.17E-11	1.46E-11
22 8.60 0.	0.	1.11E-20	0.	0.	0.	1.96E-15	1.10E-12	1.19E-11	3.16E-11	1.46E-11
23 8.50 0.	0.	9.51E-21	0.	0.	0.	1.97E-15	1.14E-12	1.20E-11	3.15E-11	1.46E-11
24 8.40 0.	0.	9.36E-21	0.	0.	0.	1.98E-15	1.19E-12	1.20E-11	3.14E-11	1.46E-11
25 8.30 0.	0.	7.74E-21	0.	0.	0.	1.99E-15	1.23E-12	1.20E-11	3.14E-11	1.46E-11
26 8.20 0.	0.	7.76E-21	0.	0.	0.	2.00E-15	1.27E-12	1.20E-11	3.16E-11	1.46E-11
27 8.10 0.	0.	6.54E-21	0.	0.	0.	2.01E-15	1.32E-12	1.20E-11	3.17E-11	1.46E-11
28 8.00 0.	0.	6.51E-21	0.	0.	0.	2.02E-15	1.37E-12	1.20E-11	3.18E-11	1.46E-11
29 7.90 0.	0.	5.48E-21	0.	0.	0.	2.03E-15	1.43E-12	1.20E-11	3.20E-11	1.46E-11
30 7.80 0.	0.	5.62E-21	0.	0.	0.	2.04E-15	1.48E-12	1.20E-11	3.21E-11	1.46E-11
31 7.70 0.	0.	4.82E-21	0.	0.	0.	2.05E-15	1.54E-12	1.20E-11	3.23E-11	1.46E-11
32 7.60 0.	0.	4.51E-21	0.	3.44E-25	0.	2.06E-15	1.60E-12	1.20E-11	3.24E-11	1.46E-11
33 7.50 0.	0.	4.09E-21	0.	1.36E-24	0.	2.07E-15	1.67E-12	1.20E-11	3.25E-11	1.46E-11
34 7.40 0.	0.	3.61E-21	0.	9.46E-24	0.	2.08E-15	1.74E-12	1.20E-11	3.27E-11	1.46E-11
35 7.30 0.	0.	3.36E-21	0.	4.13E-23	0.	2.09E-15	1.81E-12	1.20E-11	3.28E-11	1.46E-11
36 7.20 0.	0.	2.98E-21	0.	1.10E-22	0.	2.10E-15	1.89E-12	1.20E-11	3.30E-11	1.46E-11
37 7.10 0.	0.	2.81E-21	0.	3.29E-22	0.	2.12E-15	1.97E-12	1.20E-11	3.31E-11	1.46E-11
38 7.00 1.34E-24	0.	2.53E-21	0.	7.31E-22	0.	2.14E-15	2.06E-12	1.20E-11	3.32E-11	1.46E-11
39 6.90 2.68E-24	0.	2.28E-21	0.	8.98E-22	0.	2.16E-15	2.15E-12	1.20E-11	3.34E-11	1.46E-11
40 6.80 2.29E-24	0.	2.15E-21	0.	1.69E-21	0.	2.17E-15	2.24E-12	1.20E-11	3.35E-11	1.46E-11
41 6.70 1.64E-24	0.	1.85E-21	0.	1.81E-21	0.	2.19E-15	2.35E-12	1.20E-11	3.37E-11	1.46E-11
42 6.60 9.89E-25	0.	1.62E-21	0.	1.32E-21	0.	2.21E-15	2.45E-12	1.20E-11	3.39E-11	1.46E-11
43 6.50 5.63E-25	0.	1.26E-21	0.	2.11E-21	0.	2.23E-15	2.57E-12	1.20E-11	3.41E-11	1.46E-11
44 6.40 3.16E-25	0.	8.43E-22	8.84E-24	2.14E-21	0.	2.24E-15	2.69E-12	1.20E-11	3.43E-11	1.46E-11
45 6.30 1.80E-25	0.	5.07E-22	4.06E-23	1.34E-21	0.	2.26E-15	2.82E-12	1.20E-11	3.45E-11	1.46E-11
46 6.20 7.94E-26	0.	2.71E-22	5.63E-23	1.93E-21	0.	2.28E-15	2.96E-12	1.20E-11	3.50E-11	1.46E-11
47 6.10 3.65E-26	0.	1.24E-22	1.58E-22	2.57E-21	0.	2.29E-15	3.11E-12	1.20E-11	3.53E-11	1.46E-11
48 6.00 1.45E-26	0.	3.07E-23	1.46E-22	1.15E-21	0.	2.31E-15	3.27E-12	1.20E-11	3.58E-11	1.46E-11
49 5.90 3.57E-27	0.	2.20E-24	2.91E-22	1.15E-21	0.	2.31E-15	3.44E-12	1.20E-11	3.62E-11	1.46E-11
50 5.80 4.55E-28	0.	5.50E-26	3.33E-22	1.15E-21	0.	2.28E-15	3.63E-12	1.20E-11	3.66E-11	1.46E-11
51 5.70 3.35E-29	0.	0.	3.33E-22	1.28E-21	0.	2.14E-15	3.82E-12	1.20E-11	3.71E-11	1.46E-11

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 14000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIR-ROT	NO 2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	1.5E-30	0.	0.	2.73E-22	1.78E-21	0.	0.	1.99E-15	4.03E-12	4.25E-11	3.75E-11
53	5.50	0.	0.	0.	3.33E-22	1.67E-21	0.	0.	2.00E-15	4.26E-12	4.34E-11	3.80E-11
54	5.40	0.	0.	0.	2.97E-22	1.28E-21	0.	0.	2.01E-15	4.50E-12	4.44E-11	3.85E-11
55	5.30	0.	0.	0.	3.05E-22	1.69E-21	0.	0.	2.02E-15	4.76E-12	4.55E-11	3.91E-11
56	5.20	0.	0.	0.	3.24E-22	1.17E-21	0.	0.	2.04E-15	5.04E-12	4.66E-11	3.99E-11
57	5.10	0.	0.	0.	3.21E-22	1.53E-21	0.	0.	2.05E-15	5.35E-12	4.79E-11	4.07E-11
58	5.00	1.96E-23	0.	0.	2.90E-22	1.40E-21	0.	0.	2.07E-15	5.68E-12	4.94E-11	4.15E-11
59	4.90	4.66E-23	0.	0.	3.20E-22	1.49E-21	0.	0.	2.09E-15	6.03E-12	5.10E-11	4.23E-11
60	4.80	8.52E-23	0.	0.	3.41E-22	1.38E-21	0.	0.	2.10E-15	6.42E-12	5.27E-11	4.32E-11
61	4.70	1.12E-22	0.	0.	3.35E-22	1.24E-21	0.	0.	2.12E-15	6.84E-12	5.44E-11	4.43E-11
62	4.60	1.51E-22	0.	0.	3.41E-22	1.13E-21	0.	0.	2.14E-15	7.30E-12	5.65E-11	4.54E-11
63	4.50	1.56E-22	0.	1.56E-22	3.06E-22	8.39E-22	0.	0.	2.16E-15	7.80E-12	5.91E-11	4.65E-11
64	4.40	1.64E-22	0.	4.99E-22	3.05E-22	5.89E-22	0.	0.	2.17E-15	8.35E-12	6.18E-11	4.71E-11
65	4.30	1.52E-22	0.	1.48E-21	2.85E-22	3.59E-22	0.	0.	2.19E-15	8.95E-12	6.46E-11	4.80E-11
66	4.20	1.46E-22	0.	5.13E-21	2.99E-22	2.63E-22	0.	0.	2.21E-15	9.60E-12	6.75E-11	4.88E-11
67	4.10	1.30E-22	0.	2.01E-21	2.87E-22	7.10E-23	0.	0.	2.22E-15	1.03E-11	6.28E-11	1.53E-11
68	4.00	1.18E-22	0.	7.34E-21	2.74E-22	5.41E-23	0.	0.	2.23E-15	1.11E-11	5.01E-11	1.58E-11
69	3.90	9.82E-23	0.	3.33E-21	2.46E-22	2.14E-23	0.	0.	2.22E-15	1.20E-11	5.23E-11	1.63E-11
70	3.80	1.07E-22	0.	5.16E-21	2.63E-22	0.	0.	0.	2.21E-15	1.30E-11	5.03E-11	1.69E-11
71	3.70	9.26E-23	0.	5.76E-21	2.40E-17	2.17E-22	0.	0.	2.17E-15	1.41E-11	5.26E-11	1.87E-11
72	3.60	8.24E-23	0.	3.70E-21	1.39E-16	2.36E-22	0.	0.	2.04E-15	1.53E-11	5.73E-11	2.07E-11
73	3.50	7.57E-23	0.	5.12E-21	3.12E-16	1.80E-22	0.	0.	1.86E-15	1.67E-11	6.09E-11	2.29E-11
74	3.40	6.80E-23	0.	3.02E-21	3.71E-17	2.01E-22	0.	0.	1.07E-15	1.82E-11	6.81E-11	2.53E-11
75	3.30	5.28E-23	0.	3.13E-21	1.62E-16	1.57E-22	0.	0.	1.08E-15	1.99E-11	7.54E-11	2.78E-11
76	3.20	4.60E-23	0.	1.97E-21	3.11E-16	1.63E-22	0.	0.	1.08E-15	2.19E-11	8.29E-11	3.04E-11
77	3.10	4.33E-23	0.	1.52E-21	5.83E-17	1.51E-22	0.	0.	1.08E-15	2.41E-11	9.06E-11	3.31E-11
78	3.00	3.81E-23	0.	9.08E-22	1.57E-16	1.40E-22	0.	0.	1.08E-15	2.66E-11	9.82E-11	3.57E-11
79	2.90	3.13E-23	0.	5.57E-22	9.08E-17	1.03E-22	0.	0.	1.08E-15	2.95E-11	1.06E-10	3.84E-11
80	2.80	3.22E-23	0.	2.67E-22	4.91E-17	6.85E-23	0.	0.	1.09E-15	3.20E-11	1.15E-10	3.73E-11
81	2.70	2.01E-23	0.	1.24E-22	7.54E-17	3.60E-23	0.	0.	1.09E-15	3.66E-11	1.25E-10	1.95E-10
82	2.60	9.12E-24	0.	6.16E-23	7.26E-18	1.53E-23	0.	0.	1.09E-15	4.10E-11	8.04E-11	2.12E-11
83	2.50	6.30E-23	0.	6.97E-24	6.44E-18	3.56E-24	0.	0.	1.09E-15	4.62E-11	9.51E-11	2.45E-11
84	2.40	0.	3.46E-22	5.97E-18	3.73E-25	0.	0.	0.	1.09E-15	5.23E-11	1.17E-10	3.01E-11
85	2.30	0.	1.20E-21	0.	0.	0.	0.	0.	1.08E-15	5.95E-11	1.42E-10	3.60E-11
86	2.20	0.	2.93E-21	0.	0.	0.	0.	0.	1.07E-15	6.81E-11	1.67E-10	4.33E-11
87	2.10	0.	3.37E-21	0.	0.	0.	0.	0.	1.07E-15	7.85E-11	1.93E-10	5.06E-11
88	2.00	0.	6.31E-21	0.	0.	0.	0.	0.	1.03E-15	9.11E-11	2.20E-10	5.79E-11
89	1.90	0.	9.14E-21	0.	0.	0.	0.	0.	9.96E-16	1.06E-10	2.51E-10	6.64E-11
90	1.80	0.	7.56E-21	0.	0.	0.	0.	0.	9.52E-16	1.25E-10	2.98E-10	8.00E-11
91	1.70	0.	8.91E-21	0.	0.	0.	0.	0.	8.97E-16	1.49E-10	3.56E-10	9.14E-11
92	1.60	0.	6.47E-21	0.	0.	0.	0.	0.	7.59E-16	1.80E-10	3.83E-10	1.08E-10
93	1.50	0.	7.66E-21	0.	0.	0.	0.	0.	3.45E-16	2.19E-10	3.29E-10	1.25E-10
94	1.40	0.	7.70E-21	0.	0.	0.	0.	0.	2.70E-10	4.36E-10	1.10E-10	8.16E-10
95	1.30	0.	5.87E-21	0.	0.	0.	0.	0.	3.38E-10	6.25E-10	1.59E-10	1.12E-09
96	1.20	0.	5.67E-21	0.	0.	0.	0.	0.	4.32E-10	8.51E-10	1.95E-10	1.48E-09
97	1.10	0.	5.18E-21	0.	0.	0.	0.	0.	5.66E-10	1.04E-09	2.49E-10	1.86E-09
98	1.00	0.	4.75E-21	0.	0.	0.	0.	0.	7.61E-10	1.26E-09	3.02E-10	2.33E-09
99	0.90	0.	3.90E-21	0.	0.	0.	0.	0.	1.05E-09	1.44E-09	3.37E-10	2.82E-09
100	0.80	0.	1.83E-21	0.	0.	0.	0.	0.	1.50E-09	1.32E-09	2.87E-10	3.10E-09
101	0.70	0.	4.49E-22	0.	0.	0.	0.	0.	2.25E-09	1.51E-09	3.30E-10	4.09E-09
102	0.60	0.	5.90E-23	0.	0.	0.	0.	0.	3.62E-09	1.70E-09	3.73E-10	5.70E-09

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1500C.	DENSITY (GM/CC)		1.293E-02 (1.0E 01 NORMAL)	FREE-FREE		PHOTO-DET (IONS)		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	O2 S-R	U2 S-R	U2 S-R	NO	BETA	NO	GAMMA	NO	2	NO	2	NO	2	NO	2
1	10.70	0.	5.25E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.70	0.	4.71E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.70	0.	4.72E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	4.42E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	3.81E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	3.90E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	3.64E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	3.14E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	3.21E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	2.98E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	2.53E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	2.73E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	2.30E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	2.15E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	2.19E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	1.78E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	1.82E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	1.63E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	1.49E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	1.46E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	1.24E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	1.27E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	1.10E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	1.08E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	9.05E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	9.10E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	7.73E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	7.72E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	6.55E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	6.74E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	5.82E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	5.47E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	5.00E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	4.44E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	4.16E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	3.71E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	3.52E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	6.76E-05	3.19E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	1.31E-04	2.89E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	1.12E-04	2.75E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	8.08E-05	2.37E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	4.84E-05	2.10E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	2.79E-05	1.64E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	1.58E-05	1.11E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	9.05E-06	6.76E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	4.04E-06	3.66E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	1.83E-06	1.69E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	7.54E-07	4.22E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	1.84E-07	3.02E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	2.34E-08	7.57E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	1.72E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON 02 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		FREE-FREE		TOTAL AIR	
ENERGY BANDS		1ST POS.		2ND POS.		1ST NEG.		2ND NEG.	
		N2		N2+		BETA		GAMMA	
		VIB-ROT		NO		NO		NO	
		PHOTO-DET (IONS)		N		P.E.		P.E.	
		0		0		0		0	
52	5.60 7.71E-11	0.	0.	1.98E-02	1.29E-01	0.	0.	2.50E 00	1.28E-01
53	5.50 0.	0.	0.	2.42E-02	1.20E-01	0.	0.	2.51E 00	1.35E-01
54	5.40 0.	0.	0.	2.18E-02	9.40E-02	0.	0.	2.52E 00	1.43E-01
55	5.30 0.	0.	0.	2.24E-02	1.22E-01	0.	0.	2.54E 00	1.51E-01
56	5.20 0.	0.	0.	2.39E-02	8.71E-02	0.	0.	2.56E 00	1.60E-01
57	5.10 0.	0.	0.	2.37E-02	1.13E-01	0.	0.	2.58E 00	1.70E-01
58	5.00 1.04E-03	0.	0.	2.15E-02	1.04E-01	0.	0.	2.60E 00	1.81E-01
59	4.90 2.45E-03	0.	0.	2.38E-02	1.12E-01	0.	0.	2.62E 00	1.92E-01
60	4.80 4.52E-03	0.	0.	2.54E-02	1.04E-01	0.	0.	2.64E 00	2.04E-01
61	4.70 6.05E-03	0.	0.	2.51E-02	9.37E-02	0.	0.	2.67E 00	2.18E-01
62	4.60 8.14E-03	0.	0.	2.57E-02	8.55E-02	0.	0.	2.69E 00	2.32E-01
63	4.50 8.45E-03	0.	0.	2.32E-02	6.38E-02	0.	0.	2.71E 00	2.48E-01
64	4.40 8.92E-03	0.	0.	2.31E-02	4.45E-02	0.	0.	2.73E 00	2.66E-01
65	4.30 8.33E-03	0.	0.	2.18E-02	2.74E-02	0.	0.	2.75E 00	2.85E-01
66	4.20 7.71E-03	0.	0.	2.29E-02	1.98E-02	0.	0.	2.77E 00	3.06E-01
67	4.10 7.17E-03	0.	0.	2.21E-02	5.40E-03	0.	0.	2.78E 00	3.29E-01
68	4.00 6.54E-03	0.	0.	1.00E 00	4.10E-03	0.	0.	2.80E 00	3.83E-01
69	3.90 5.99E-03	0.	0.	7.17E-01	1.98E-02	0.	0.	2.77E 00	4.14E-01
70	3.80 5.99E-03	0.	0.	7.83E-01	3.44E-02	0.	0.	2.73E 00	4.49E-01
71	3.70 5.23E-03	0.	0.	5.18E-01	1.94E-01	0.	0.	2.56E 00	5.31E-01
72	3.60 4.64E-03	0.	0.	7.07E-01	4.16E-01	0.	0.	2.34E 00	5.88E-01
73	3.50 4.32E-03	0.	0.	4.27E-01	5.31E-02	0.	0.	1.35E 00	5.80E-01
74	3.40 3.91E-03	0.	0.	4.41E-01	2.23E-01	0.	0.	1.35E 00	6.35E-01
75	3.30 3.11E-03	0.	0.	2.82E-01	4.11E-01	0.	0.	1.35E 00	6.97E-01
76	3.20 2.67E-03	0.	0.	2.17E-01	8.36E-02	0.	0.	1.36E 00	7.67E-01
77	3.10 2.53E-03	0.	0.	1.31E-01	2.16E-01	0.	0.	1.36E 00	8.47E-01
78	3.00 2.24E-03	0.	0.	8.09E-02	1.23E-01	0.	0.	1.36E 00	9.39E-01
79	2.90 1.86E-03	0.	0.	3.88E-02	7.01E-02	0.	0.	1.36E 00	1.04E 00
80	2.80 1.91E-03	0.	0.	1.81E-02	1.03E-01	0.	0.	1.36E 00	1.17E 00
81	2.70 1.21E-03	0.	0.	8.93E-03	1.01E-02	0.	0.	1.36E 00	1.31E 00
82	2.60 5.54E-04	0.	0.	9.94E-04	9.38E-03	0.	0.	1.36E 00	1.47E 00
83	2.50 3.86E-05	0.	0.	4.80E-02	0.	0.	0.	1.36E 00	1.67E 00
84	2.40 0.	0.	0.	1.61E-01	0.	0.	0.	1.35E 00	1.90E 00
85	2.30 0.	0.	0.	4.01E-01	0.	0.	0.	1.35E 00	2.17E 00
86	2.20 0.	0.	0.	4.49E-01	0.	0.	0.	1.34E 00	2.50E 00
87	2.10 0.	0.	0.	8.53E-01	0.	0.	0.	1.30E 00	2.90E 00
88	2.00 0.	0.	0.	1.19E 00	0.	0.	0.	1.25E 00	3.39E 00
89	1.90 0.	0.	0.	9.87E-01	0.	0.	0.	1.20E 00	4.00E 00
90	1.80 0.	0.	0.	1.15E 00	0.	0.	0.	1.13E 00	4.76E 00
91	1.70 0.	0.	0.	8.45E-01	0.	0.	0.	9.54E-01	5.73E 00
92	1.60 0.	0.	0.	9.93E-01	0.	0.	0.	4.33E-01	6.97E 00
93	1.50 0.	0.	0.	9.93E-01	0.	0.	0.	0.	8.60E 00
94	1.40 0.	0.	0.	7.59E-01	0.	0.	0.	0.	1.08E 01
95	1.30 0.	0.	0.	6.75E-01	0.	0.	0.	0.	1.38E 01
96	1.20 0.	0.	0.	6.19E-01	0.	0.	0.	0.	1.82E 01
97	1.10 0.	0.	0.	5.09E-01	0.	0.	0.	0.	2.43E 01
98	1.00 0.	0.	0.	2.39E-01	0.	0.	0.	0.	3.34E 01
99	0.90 0.	0.	0.	5.79E-02	0.	0.	0.	0.	4.77E 01
100	0.80 0.	0.	0.	8.46E-03	0.	0.	0.	0.	7.21E 01
101	0.70 0.	0.	0.	0.	0.	0.	0.	0.	1.16E 02
102	0.60 0.	0.	0.	0.	0.	0.	0.	0.	1.16E 02

[illegible]

1	10.70	0.	5.76E-02	0.	0.	7.31E-02	1.73E-03	2.13E-01	5.19E-02	2.15E-01
2	10.60	0.	5.17E-02	0.	0.	7.32E-02	1.78E-03	2.62E-01	5.18E-02	4.41E-01
3	10.50	0.	5.18E-02	0.	0.	7.33E-02	1.83E-03	2.63E-01	5.16E-02	4.42E-01
4	10.40	0.	4.86E-02	0.	0.	7.34E-02	1.89E-03	2.64E-01	5.15E-02	4.40E-01
5	10.30	0.	4.18E-02	0.	0.	7.35E-02	1.94E-03	2.65E-01	5.13E-02	4.33E-01
6	10.20	0.	4.28E-02	0.	0.	7.35E-02	2.00E-03	2.66E-01	5.11E-02	4.35E-01
7	10.10	0.	3.99E-02	0.	0.	7.36E-02	2.06E-03	2.66E-01	5.10E-02	4.33E-01
8	10.00	0.	3.45E-02	0.	0.	7.37E-02	2.12E-03	2.67E-01	5.08E-02	4.29E-01
9	9.90	0.	3.52E-02	0.	0.	7.39E-02	2.19E-03	2.67E-01	5.06E-02	4.29E-01
10	9.80	0.	3.27E-02	0.	0.	7.40E-02	2.26E-03	2.68E-01	5.05E-02	4.27E-01
11	9.70	0.	2.78E-02	0.	0.	7.41E-02	2.33E-03	2.69E-01	5.03E-02	4.23E-01
12	9.60	0.	3.00E-02	0.	0.	7.43E-02	2.40E-03	2.69E-01	5.01E-02	4.26E-01
13	9.50	0.	2.52E-02	0.	0.	7.44E-02	2.48E-03	2.70E-01	5.00E-02	4.22E-01
14	9.40	0.	2.36E-02	0.	0.	7.47E-02	2.56E-03	2.71E-01	4.98E-02	4.21E-01
15	9.30	0.	2.40E-02	0.	0.	7.50E-02	2.64E-03	2.72E-01	4.97E-02	4.23E-01
16	9.20	0.	1.95E-02	0.	0.	7.52E-02	2.73E-03	2.72E-01	4.95E-02	4.19E-01
17	9.10	0.	2.00E-02	0.	0.	7.55E-02	2.82E-03	9.08E-02	4.93E-02	2.38E-01
18	9.00	0.	1.79E-02	0.	0.	7.58E-02	2.92E-03	9.08E-02	4.92E-02	2.37E-01
19	8.90	0.	1.64E-02	0.	0.	7.60E-02	3.02E-03	9.08E-02	4.90E-02	2.35E-01
20	8.80	0.	1.60E-02	0.	0.	7.63E-02	3.12E-03	9.08E-02	4.89E-02	2.35E-01
21	8.70	0.	1.36E-02	0.	0.	7.66E-02	3.23E-03	9.09E-02	4.87E-02	2.33E-01
22	8.60	0.	1.40E-02	0.	0.	7.69E-02	3.34E-03	9.09E-02	4.86E-02	2.34E-01
23	8.50	0.	1.21E-02	0.	0.	7.71E-02	3.46E-03	9.10E-02	4.85E-02	2.32E-01
24	8.40	0.	1.19E-02	0.	0.	7.75E-02	3.59E-03	9.12E-02	4.83E-02	2.33E-01
25	8.30	0.	9.93E-03	0.	0.	7.79E-02	3.72E-03	9.14E-02	4.83E-02	2.31E-01
26	8.20	0.	9.99E-03	0.	0.	7.83E-02	3.86E-03	9.16E-02	4.85E-02	2.32E-01
27	8.10	0.	8.49E-03	0.	0.	7.87E-02	4.01E-03	9.16E-02	4.86E-02	2.32E-01
28	8.00	0.	8.48E-03	0.	0.	7.92E-02	4.16E-03	9.20E-02	4.88E-02	2.33E-01
29	7.90	0.	7.19E-03	0.	0.	7.96E-02	4.32E-03	9.23E-02	4.90E-02	2.32E-01
30	7.80	0.	7.39E-03	0.	0.	8.00E-02	4.49E-03	9.27E-02	4.92E-02	2.34E-01
31	7.70	0.	6.39E-03	0.	0.	8.04E-02	4.67E-03	9.31E-02	4.93E-02	2.34E-01
32	7.60	0.	6.01E-03	0.	2.71E-07	8.08E-02	4.86E-03	9.36E-02	4.95E-02	2.34E-01
33	7.50	0.	5.49E-03	0.	1.02E-06	8.12E-02	5.06E-03	9.40E-02	4.97E-02	2.35E-01
34	7.40	0.	4.88E-03	0.	7.50E-06	8.16E-02	5.27E-03	9.44E-02	4.99E-02	2.36E-01
35	7.30	0.	4.57E-03	0.	3.18E-05	8.21E-02	5.49E-03	9.48E-02	5.01E-02	2.37E-01
36	7.20	0.	4.07E-03	0.	8.56E-05	8.25E-02	5.72E-03	9.52E-02	5.02E-02	2.38E-01
37	7.10	0.	3.87E-03	0.	2.59E-04	8.32E-02	5.96E-03	9.56E-02	5.04E-02	2.39E-01
38	7.00	6.77E-07	3.50E-03	0.	5.57E-04	8.39E-02	6.23E-03	9.60E-02	5.06E-02	2.41E-01
39	6.90	1.31E-06	3.18E-03	0.	7.09E-04	8.46E-02	6.50E-03	9.64E-02	5.08E-02	2.42E-01
40	6.80	1.12E-06	3.02E-03	0.	1.31E-03	8.52E-02	6.79E-03	9.68E-02	5.09E-02	2.44E-01
41	6.70	8.09E-07	2.61E-03	0.	1.36E-03	8.59E-02	7.11E-03	9.72E-02	5.12E-02	2.45E-01
42	6.60	4.89E-07	2.30E-03	0.	1.03E-03	8.66E-02	7.44E-03	9.80E-02	5.14E-02	2.47E-01
43	6.50	2.81E-07	1.81E-03	0.	1.61E-03	8.73E-02	7.79E-03	9.88E-02	5.17E-02	2.49E-01
44	6.40	1.51E-07	1.22E-03	0.	6.35E-06	8.79E-02	8.16E-03	9.97E-02	5.19E-02	2.51E-01
45	6.30	9.06E-08	7.43E-04	0.	2.94E-05	8.86E-02	8.56E-03	1.01E-01	5.23E-02	2.52E-01
46	6.20	4.04E-08	4.02E-04	0.	4.10E-05	8.93E-02	8.98E-03	1.01E-01	5.29E-02	2.55E-01
47	6.10	1.83E-08	1.85E-04	0.	1.16E-04	9.00E-02	9.44E-03	1.03E-01	5.35E-02	2.58E-01
48	6.00	7.56E-09	4.63E-05	0.	1.08E-04	9.07E-02	9.92E-03	1.04E-01	5.41E-02	2.60E-01
49	5.90	2.34E-10	3.32E-06	0.	1.57E-04	9.07E-02	1.04E-02	1.05E-01	5.47E-02	2.62E-01
50	5.80	2.34E-10	8.31E-08	0.	2.18E-04	8.93E-02	1.10E-02	1.07E-01	5.53E-02	2.63E-01
51	5.70	1.72E-11	0.	0.	2.51E-04	8.39E-02	1.16E-02	1.08E-01	5.59E-02	2.61E-01

ABSORPTION: COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 15000. DENSITY (GM/CC) 1.293E-03 (1.0E 00 NORMAL)

	PHOTON U2 S-R ENERGY	HANDS	1ST PUS.	N2	2ND POS.	1ST NEG.	N2+	NO BETA	NO GAMMA	NO VIR-RUT	NO 2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	7.75E-13	0.	0.	0.	0.	0.	2.08E-04	1.36E-03	0.	0.	7.80E-02	1.22E-02	1.10E-01	5.66E-02	2.58E-01
53	5.50	0.	0.	0.	0.	0.	0.	2.54E-04	1.26E-03	0.	0.	7.84E-02	1.29E-02	1.12E-01	5.73E-02	2.62E-01
54	5.40	0.	0.	0.	0.	0.	0.	2.29E-04	9.86E-04	0.	0.	7.88E-02	1.36E-02	1.15E-01	5.80E-02	2.66E-01
55	5.30	0.	0.	0.	0.	0.	0.	2.35E-04	1.28E-03	0.	0.	7.93E-02	1.44E-02	1.17E-01	5.89E-02	2.72E-01
56	5.20	0.	0.	0.	0.	0.	0.	2.51E-04	9.13E-04	0.	0.	7.98E-02	1.53E-02	1.20E-01	6.01E-02	2.77E-01
57	5.10	0.	0.	0.	0.	0.	0.	2.49E-04	1.19E-03	0.	0.	8.05E-02	1.62E-02	1.24E-01	6.12E-02	2.83E-01
58	5.00	1.03E-05	0.	0.	0.	0.	0.	2.26E-04	1.09E-03	0.	0.	8.12E-02	1.72E-02	1.27E-01	6.24E-02	2.90E-01
59	4.90	2.46E-05	0.	0.	0.	0.	0.	2.50E-04	1.17E-03	0.	0.	8.19E-02	1.83E-02	1.32E-01	6.36E-02	2.97E-01
60	4.80	4.53E-05	0.	0.	0.	0.	0.	2.67E-04	1.09E-03	0.	0.	8.25E-02	1.94E-02	1.36E-01	6.49E-02	3.04E-01
61	4.70	6.01E-05	0.	0.	0.	0.	0.	2.64E-04	9.83E-04	0.	0.	8.32E-02	2.07E-02	1.40E-01	6.66E-02	3.12E-01
62	4.60	8.15E-05	0.	0.	0.	0.	0.	2.69E-04	8.96E-04	0.	0.	8.39E-02	2.21E-02	1.46E-01	6.83E-02	3.21E-01
63	4.50	8.47E-05	0.	2.37E-04	0.	0.	0.	2.43E-04	6.70E-04	0.	0.	8.46E-02	2.36E-02	1.53E-01	7.00E-02	3.32E-01
64	4.40	8.91E-05	0.	7.41E-04	0.	0.	0.	2.43E-04	4.67E-04	0.	0.	8.52E-02	2.53E-02	1.60E-01	7.18E-02	3.43E-01
65	4.30	8.34E-05	0.	2.27E-03	0.	0.	0.	2.29E-04	2.87E-04	0.	0.	8.59E-02	2.71E-02	1.67E-01	7.36E-02	3.57E-01
66	4.20	7.72E-05	0.	7.66E-03	0.	0.	0.	2.40E-04	2.08E-04	0.	0.	8.66E-02	2.91E-02	1.75E-01	7.55E-02	3.74E-01
67	4.10	7.16E-05	0.	3.10E-03	0.	0.	0.	2.32E-04	5.66E-05	0.	0.	8.69E-02	3.13E-02	1.82E-01	7.62E-02	3.80E-01
68	4.00	6.55E-05	0.	1.10E-02	0.	0.	0.	2.22E-04	4.30E-05	0.	0.	8.73E-02	3.38E-02	1.90E-01	7.61E-02	3.88E-01
69	3.90	5.50E-05	0.	5.03E-03	6.99E-04	0.	0.	2.01E-04	1.68E-05	0.	0.	8.69E-02	3.65E-02	1.80E-01	7.69E-02	3.36E-01
70	3.80	6.00E-05	0.	7.87E-03	3.32E-03	0.	0.	2.16E-04	0.	0.	0.	8.66E-02	3.94E-02	1.83E-01	7.80E-02	3.49E-01
71	3.70	5.24E-05	0.	8.60E-03	1.21E-03	0.	0.	1.80E-04	0.	0.	0.	8.32E-02	4.28E-02	1.47E-01	7.90E-02	3.16E-01
72	3.60	4.69E-05	0.	5.69E-03	6.83E-03	0.	0.	1.95E-04	0.	0.	0.	7.98E-02	4.65E-02	1.59E-01	8.40E-02	3.32E-01
73	3.50	4.33E-05	0.	7.76E-03	1.46E-02	0.	0.	1.51E-04	0.	0.	0.	7.31E-02	5.06E-02	1.66E-01	8.76E-02	3.50E-01
74	3.40	3.92E-05	0.	4.69E-03	1.87E-03	0.	0.	1.69E-04	0.	0.	0.	4.21E-02	5.52E-02	1.86E-01	4.16E-02	3.31E-01
75	3.30	3														







# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 15000.				DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)				TOTAL AIR							
PHOTON U2 S-R		N2 S-R		N2 S-H		NO		O-		FREE-FREE		N		O	
ENERGY BANDS		CONT.		NO. 1		GAMMA		PHOTO-DET (IONS)		P.E.		P.E.		P.E.	
E.V.															
1	10.70 0.	0.	0.	1.96E-06	0.	0.	0.	0.	3.93E-05	1.03E-05	1.25E-01	3.62E-04	1.25E-01	3.62E-04	1.25E-01
2	10.60 0.	0.	0.	1.76E-06	0.	0.	0.	0.	3.93E-05	1.06E-05	1.53E-03	3.61E-04	1.94E-03	3.61E-04	1.94E-03
3	10.50 0.	0.	0.	1.77E-06	0.	0.	0.	0.	3.94E-05	1.09E-05	1.54E-03	3.60E-04	1.95E-03	3.60E-04	1.95E-03
4	10.40 0.	0.	0.	1.65E-06	0.	0.	0.	0.	3.94E-05	1.12E-05	1.54E-03	3.59E-04	1.96E-03	3.59E-04	1.96E-03
5	10.30 0.	0.	0.	1.42E-06	0.	0.	0.	0.	3.95E-05	1.15E-05	1.55E-03	3.58E-04	1.96E-03	3.58E-04	1.96E-03
6	10.20 0.	0.	0.	1.46E-06	0.	0.	0.	0.	3.95E-05	1.19E-05	1.55E-03	3.57E-04	1.96E-03	3.57E-04	1.96E-03
7	10.10 0.	0.	0.	1.36E-06	0.	0.	0.	0.	3.96E-05	1.22E-05	1.55E-03	3.55E-04	1.96E-03	3.55E-04	1.96E-03
8	10.00 0.	0.	0.	1.17E-06	0.	0.	0.	0.	3.96E-05	1.26E-05	1.56E-03	3.54E-04	1.96E-03	3.54E-04	1.96E-03
9	9.90 0.	0.	0.	1.20E-06	0.	0.	0.	0.	3.97E-05	1.30E-05	1.56E-03	3.53E-04	1.97E-03	3.53E-04	1.97E-03
10	9.80 0.	0.	0.	1.11E-06	0.	0.	0.	0.	3.98E-05	1.34E-05	1.56E-03	3.52E-04	1.97E-03	3.52E-04	1.97E-03
11	9.70 0.	0.	0.	9.48E-07	0.	0.	0.	0.	3.98E-05	1.38E-05	1.57E-03	3.51E-04	1.97E-03	3.51E-04	1.97E-03
12	9.60 0.	0.	0.	1.02E-06	0.	0.	0.	0.	3.99E-05	1.42E-05	1.57E-03	3.50E-04	1.98E-03	3.50E-04	1.98E-03
13	9.50 0.	0.	0.	8.59E-07	0.	0.	0.	0.	4.00E-05	1.47E-05	1.58E-03	3.49E-04	1.98E-03	3.49E-04	1.98E-03
14	9.40 0.	0.	0.	8.02E-07	0.	0.	0.	0.	4.01E-05	1.52E-05	1.58E-03	3.47E-04	1.98E-03	3.47E-04	1.98E-03
15	9.30 0.	0.	0.	8.19E-07	0.	0.	0.	0.	4.03E-05	1.57E-05	1.59E-03	3.46E-04	1.99E-03	3.46E-04	1.99E-03
16	9.20 0.	0.	0.	6.65E-07	0.	0.	0.	0.	4.04E-05	1.62E-05	1.59E-03	3.45E-04	1.99E-03	3.45E-04	1.99E-03
17	9.10 0.	0.	0.	6.81E-07	0.	0.	0.	0.	4.06E-05	1.67E-05	1.59E-03	3.44E-04	1.99E-03	3.44E-04	1.99E-03
18	9.00 0.	0.	0.	6.11E-07	0.	0.	0.	0.	4.07E-05	1.73E-05	1.59E-03	3.43E-04	1.99E-03	3.43E-04	1.99E-03
19	8.90 0.	0.	0.	5.58E-07	0.	0.	0.	0.	4.09E-05	1.79E-05	1.59E-03	3.42E-04	1.99E-03	3.42E-04	1.99E-03
20	8.80 0.	0.	0.	5.45E-07	0.	0.	0.	0.	4.10E-05	1.85E-05	1.59E-03	3.41E-04	1.99E-03	3.41E-04	1.99E-03
21	8.70 0.	0.	0.	4.65E-07	0.	0.	0.	0.	4.12E-05	1.91E-05	1.59E-03	3.40E-04	1.99E-03	3.40E-04	1.99E-03
22	8.60 0.	0.	0.	4.77E-07	0.	0.	0.	0.	4.13E-05	1.98E-05	1.59E-03	3.39E-04	1.99E-03	3.39E-04	1.99E-03
23	8.50 0.	0.	0.	4.11E-07	0.	0.	0.	0.	4.14E-05	2.05E-05	1.59E-03	3.38E-04	1.99E-03	3.38E-04	1.99E-03
24	8.40 0.	0.	0.	4.06E-07	0.	0.	0.	0.	4.17E-05	2.13E-05	1.59E-03	3.37E-04	1.99E-03	3.37E-04	1.99E-03
25	8.30 0.	0.	0.	3.38E-07	0.	0.	0.	0.	4.19E-05	2.20E-05	1.59E-03	3.37E-04	1.99E-03	3.37E-04	1.99E-03
26	8.20 0.	0.	0.	3.40E-07	0.	0.	0.	0.	4.21E-05	2.29E-05	1.59E-03	3.38E-04	1.99E-03	3.38E-04	1.99E-03
27	8.10 0.	0.	0.	2.89E-07	0.	0.	0.	0.	4.23E-05	2.37E-05	1.59E-03	3.39E-04	1.99E-03	3.39E-04	1.99E-03
28	8.00 0.	0.	0.	2.89E-07	0.	0.	0.	0.	4.25E-05	2.47E-05	1.59E-03	3.40E-04	1.99E-03	3.40E-04	1.99E-03
29	7.90 0.	0.	0.	2.45E-07	0.	0.	0.	0.	4.28E-05	2.56E-05	1.59E-03	3.42E-04	1.99E-03	3.42E-04	1.99E-03
30	7.80 0.	0.	0.	2.52E-07	0.	0.	0.	0.	4.30E-05	2.66E-05	1.59E-03	3.43E-04	1.99E-03	3.43E-04	1.99E-03
31	7.70 0.	0.	0.	2.18E-07	0.	0.	0.	0.	4.32E-05	2.77E-05	1.59E-03	3.44E-04	1.99E-03	3.44E-04	1.99E-03
32	7.60 0.	0.	0.	2.05E-07	0.	0.	0.	0.	4.34E-05	2.88E-05	1.59E-03	3.45E-04	1.99E-03	3.45E-04	1.99E-03
33	7.50 0.	0.	0.	1.87E-07	0.	0.	0.	0.	4.36E-05	3.00E-05	1.59E-03	3.47E-04	1.99E-03	3.47E-04	1.99E-03
34	7.40 0.	0.	0.	1.66E-07	0.	0.	0.	0.	4.39E-05	3.12E-05	1.59E-03	3.48E-04	1.99E-03	3.48E-04	1.99E-03
35	7.30 0.	0.	0.	1.56E-07	0.	0.	0.	0.	4.41E-05	3.25E-05	1.59E-03	3.49E-04	1.99E-03	3.49E-04	1.99E-03
36	7.20 0.	0.	0.	1.39E-07	0.	0.	0.	0.	4.44E-05	3.39E-05	1.59E-03	3.50E-04	1.99E-03	3.50E-04	1.99E-03
37	7.10 0.	0.	0.	1.32E-07	0.	0.	0.	0.	4.47E-05	3.53E-05	1.59E-03	3.52E-04	1.99E-03	3.52E-04	1.99E-03
38	7.00 3.29E-11	0.	0.	1.19E-07	0.	0.	0.	0.	4.51E-05	3.69E-05	1.59E-03	3.53E-04	1.99E-03	3.53E-04	1.99E-03
39	6.90 6.38E-11	0.	0.	1.08E-07	0.	0.	0.	0.	4.54E-05	3.85E-05	1.59E-03	3.54E-04	1.99E-03	3.54E-04	1.99E-03
40	6.80 5.46E-11	0.	0.	1.03E-07	0.	0.	0.	0.	4.58E-05	4.03E-05	1.59E-03	3.55E-04	1.99E-03	3.55E-04	1.99E-03
41	6.70 3.94E-11	0.	0.	8.88E-08	0.	0.	0.	0.	4.62E-05	4.21E-05	1.59E-03	3.57E-04	1.99E-03	3.57E-04	1.99E-03
42	6.60 2.38E-11	0.	0.	7.85E-08	0.	0.	0.	0.	4.65E-05	4.41E-05	1.59E-03	3.59E-04	1.99E-03	3.59E-04	1.99E-03
43	6.50 1.36E-11	0.	0.	6.15E-08	0.	0.	0.	0.	4.69E-05	4.61E-05	1.59E-03	3.60E-04	1.99E-03	3.60E-04	1.99E-03
44	6.40 7.69E-12	0.	0.	4.16E-08	0.	0.	0.	0.	4.73E-05	4.84E-05	1.59E-03	3.62E-04	1.99E-03	3.62E-04	1.99E-03
45	6.30 4.41E-12	0.	0.	2.53E-08	0.	0.	0.	0.	4.76E-05	5.07E-05	1.59E-03	3.65E-04	1.99E-03	3.65E-04	1.99E-03
46	6.20 1.97E-12	0.	0.	1.37E-08	0.	0.	0.	0.	4.80E-05	5.32E-05	1.59E-03	3.69E-04	1.99E-03	3.69E-04	1.99E-03
47	6.10 8.91E-13	0.	0.	6.30E-09	0.	0.	0.	0.	4.84E-05	5.59E-05	1.59E-03	3.73E-04	1.99E-03	3.73E-04	1.99E-03
48	6.00 3.68E-13	0.	0.	1.58E-09	0.	0.	0.	0.	4.87E-05	5.88E-05	1.59E-03	3.77E-04	1.99E-03	3.77E-04	1.99E-03
49	5.90 8.97E-14	0.	0.	1.13E-10	0.	0.	0.	0.	4.87E-05	6.19E-05	1.59E-03	3.82E-04	1.99E-03	3.82E-04	1.99E-03
50	5.80 1.14E-14	0.	0.	2.83E-12	0.	0.	0.	0.	4.80E-05	6.51E-05	1.59E-03	3.86E-04	1.99E-03	3.86E-04	1.99E-03
51	5.70 8.34E-16	0.	0.	0.	0.	0.	0.	0.	4.51E-05	6.87E-05	1.59E-03	3.90E-04	1.99E-03	3.90E-04	1.99E-03



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 15000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON U2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	3.77E-17	0.	0.	8.47E-09	5.52E-08	0.	4.19E-05	7.24E-05	6.41E-04	3.95E-04	1.15E-03
53	5.50	0.	0.	0.	1.03E-08	5.14E-08	0.	4.21E-05	7.65E-05	6.54E-04	3.99E-04	1.17E-03
54	5.40	0.	0.	0.	9.33E-09	4.02E-08	0.	4.24E-05	8.08E-05	6.69E-04	4.05E-04	1.20E-03
55	5.30	0.	0.	0.	9.56E-09	5.23E-08	0.	4.26E-05	8.55E-05	6.85E-04	4.11E-04	1.22E-03
56	5.20	0.	0.	0.	1.02E-08	3.72E-08	0.	4.29E-05	9.05E-05	7.02E-04	4.19E-04	1.25E-03
57	5.10	0.	0.	0.	1.01E-08	4.84E-08	0.	4.33E-05	9.60E-05	7.22E-04	4.27E-04	1.29E-03
58	5.00	5.00E-10	0.	0.	9.20E-09	4.45E-08	0.	4.36E-05	1.02E-04	7.44E-04	4.35E-04	1.32E-03
59	4.90	1.19E-09	0.	0.	1.02E-08	4.78E-08	0.	4.40E-05	1.08E-04	7.68E-04	4.43E-04	1.36E-03
60	4.80	2.21E-09	0.	0.	1.09E-08	4.45E-08	0.	4.44E-05	1.15E-04	7.94E-04	4.53E-04	1.41E-03
61	4.70	2.92E-09	0.	0.	1.07E-08	4.00E-08	0.	4.47E-05	1.23E-04	8.20E-04	4.64E-04	1.45E-03
62	4.60	3.97E-09	0.	0.	1.10E-08	3.65E-08	0.	4.51E-05	1.31E-04	8.52E-04	4.76E-04	1.50E-03
63	4.50	4.12E-09	0.	0.	9.91E-09	2.73E-08	0.	4.54E-05	1.40E-04	8.92E-04	4.88E-04	1.57E-03
64	4.40	4.35E-09	0.	0.	9.88E-09	1.90E-08	0.	4.58E-05	1.50E-04	9.32E-04	5.01E-04	1.63E-03
65	4.30	4.06E-09	0.	0.	9.32E-09	1.17E-08	0.	4.62E-05	1.61E-04	9.75E-04	5.14E-04	1.70E-03
66	4.20	3.76E-09	0.	0.	9.78E-09	8.45E-09	0.	4.65E-05	1.73E-04	1.02E-03	5.27E-04	1.77E-03
67	4.10	3.49E-09	0.	0.	9.45E-09	2.31E-09	0.	4.67E-05	1.86E-04	1.06E-03	5.31E-04	1.83E-03
68	4.00	3.19E-09	0.	0.	9.04E-09	1.75E-09	0.	4.69E-05	2.00E-04	1.11E-03	5.48E-04	1.82E-03
69	3.90	2.68E-09	0.	0.	8.79E-09	0.	0.	4.67E-05	2.16E-04	1.05E-03	5.68E-04	1.90E-03
70	3.80	2.92E-09	0.	0.	2.93E-07	5.35E-07	7.33E-09	4.65E-05	2.34E-04	1.07E-03	5.95E-04	1.95E-03
71	3.70	2.55E-09	0.	0.	1.94E-07	3.02E-06	7.94E-09	4.58E-05	2.53E-04	8.59E-04	6.25E-04	2.15E-03
72	3.60	2.26E-09	0.	0.	1.60E-07	6.47E-06	6.14E-09	4.58E-05	2.75E-04	9.28E-04	6.70E-04	2.37E-03
73	3.50	2.11E-09	0.	0.	1.65E-07	6.28E-07	6.87E-09	4.58E-05	3.00E-04	9.70E-04	7.05E-04	2.62E-03
74	3.40	1.91E-09	0.	0.	1.65E-07	3.48E-06	5.39E-09	4.58E-05	3.27E-04	1.08E-03	7.45E-04	2.90E-03
75	3.30	1.51E-09	0.	0.	1.05E-07	6.41E-06	5.62E-09	4.58E-05	3.58E-04	1.20E-03	7.88E-04	3.18E-03
76	3.20	1.36E-09	0.	0.	8.12E-08	1.30E-06	3.25E-09	4.58E-05	4.33E-04	1.44E-03	8.48E-04	3.78E-03
77	3.10	1.23E-09	0.	0.	4.90E-08	1.36E-06	4.88E-09	4.58E-05	4.78E-04	1.56E-03	8.88E-04	4.08E-03
78	3.00	1.09E-09	0.	0.	3.02E-08	1.91E-06	3.65E-09	4.58E-05	5.30E-04	1.68E-03	9.39E-04	4.39E-03
79	2.90	9.05E-10	0.	0.	1.45E-08	1.09E-06	2.46E-09	4.58E-05	5.89E-04	1.83E-03	9.74E-04	4.74E-03
80	2.80	9.33E-10	0.	0.	6.76E-09	1.61E-06	1.31E-09	4.58E-05	6.58E-04	1.98E-03	1.03E-03	5.13E-03
81	2.70	5.89E-10	0.	0.	3.34E-09	1.57E-07	5.63E-10	4.58E-05	7.38E-04	2.15E-03	1.08E-03	5.52E-03
82	2.60	2.71E-10	0.	0.	3.72E-10	1.46E-07	1.32E-10	4.58E-05	8.31E-04	2.44E-03	1.16E-03	6.00E-03
83	2.50	1.88E-11	0.	0.	1.80E-08	0.	0.	4.58E-05	9.41E-04	2.84E-03	1.26E-03	6.59E-03
84	2.40	0.	1.80E-08	0.	1.27E-07	1.39E-11	0.	4.58E-05	1.07E-03	3.31E-03	1.39E-03	7.17E-03
85	2.30	0.	6.02E-08	0.	0.	0.	0.	4.58E-05	1.23E-03	3.72E-03	1.55E-03	7.82E-03
86	2.20	0.	1.50E-07	0.	0.	0.	0.	4.58E-05	1.41E-03	4.11E-03	1.74E-03	8.52E-03
87	2.10	0.	1.68E-07	0.	0.	0.	0.	4.58E-05	1.64E-03	4.49E-03	1.94E-03	9.28E-03
88	2.00	0.	3.19E-07	0.	0.	0.	0.	4.58E-05	1.91E-03	4.88E-03	2.15E-03	1.00E-02
89	1.90	0.	4.43E-07	0.	0.	0.	0.	4.58E-05	2.26E-03	5.27E-03	2.37E-03	1.16E-02
90	1.80	0.	3.69E-07	0.	0.	0.	0.	4.58E-05	2.69E-03	5.89E-03	2.62E-03	1.36E-02
91	1.70	0.	4.32E-07	0.	0.	0.	0.	4.58E-05	3.23E-03	6.87E-03	3.00E-03	1.66E-02
92	1.60	0.	3.16E-07	0.	0.	0.	0.	4.58E-05	3.93E-03	8.81E-03	3.46E-03	2.00E-02
93	1.50	0.	3.71E-07	0.	0.	0.	0.	4.58E-05	4.85E-03	1.09E-02	4.08E-03	2.44E-02
94	1.40	0.	3.71E-07	0.	0.	0.	0.	4.58E-05	6.09E-03	1.42E-02	4.97E-03	2.99E-02
95	1.30	0.	2.84E-07	0.	0.	0.	0.	4.58E-05	7.82E-03	1.85E-02	6.59E-03	3.82E-02
96	1.20	0.	2.73E-07	0.	0.	0.	0.	4.58E-05	1.02E-02	2.59E-02	9.25E-03	5.00E-02
97	1.10	0.	2.32E-07	0.	0.	0.	0.	4.58E-05	1.37E-02	3.67E-02	1.36E-02	6.67E-02
98	1.00	0.	2.32E-07	0.	0.	0.	0.	4.58E-05	1.88E-02	5.26E-02	2.00E-02	8.87E-02
99	0.90	0.	1.90E-07	0.	0.	0.	0.	4.58E-05	2.69E-02	7.44E-02	2.82E-02	0.110
100	0.80	0.	8.95E-08	0.	0.	0.	0.	4.58E-05	4.07E-02	0.110	0.110	0.110
101	0.70	0.	2.16E-08	0.	0.	0.	0.	4.58E-05	6.55E-02	0.110	0.110	0.110
102	0.60	0.	3.16E-09	0.	0.	0.	0.	4.58E-05	0.110	0.110	0.110	0.110

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 15000.		DENSITY (GM/CC) 1.293E-06		110.0F-04 NORMAL		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	U7 S-R BANDS	U7 S-R CONT.	N2 H-H NO. 1	NO BETA	NO GAMMA	NO 2	PHOTO-DET (IONS)	0-	FREE-FREE	N	P.E.	U	P.E.
1 10.70 0.		0.	2.16E-09	0.	0.	0.	2.97E-07	3.53E-07	5.07E-05	1.48E-05	0.61E-05		
2 10.60 0.		0.	1.94E-09	0.	0.	0.	2.97E-07	3.63E-07	5.09E-05	1.47E-05	0.63E-05		
3 10.50 0.		0.	1.95E-09	0.	0.	0.	2.98E-07	3.74E-07	5.12E-05	1.47E-05	0.65E-05		
4 10.40 0.		0.	1.82E-09	0.	0.	0.	2.98E-07	3.85E-07	5.14E-05	1.46E-05	0.67E-05		
5 10.30 0.		0.	1.57E-09	0.	0.	0.	2.99E-07	3.96E-07	5.15E-05	1.46E-05	0.68E-05		
6 10.20 0.		0.	1.61E-09	0.	0.	0.	2.99E-07	4.08E-07	5.16E-05	1.45E-05	0.69E-05		
7 10.10 0.		0.	1.50E-09	0.	0.	0.	2.99E-07	4.20E-07	5.16E-05	1.45E-05	0.68E-05		
8 10.00 0.		0.	1.30E-09	0.	0.	0.	3.00E-07	4.33E-07	5.17E-05	1.44E-05	0.69E-05		
9 9.90 0.		0.	1.32E-09	0.	0.	0.	3.00E-07	4.46E-07	5.18E-05	1.44E-05	0.70E-05		
10 9.80 0.		0.	1.23E-09	0.	0.	0.	3.01E-07	4.60E-07	5.19E-05	1.44E-05	0.71E-05		
11 9.70 0.		0.	1.04E-09	0.	0.	0.	3.01E-07	4.75E-07	5.21E-05	1.43E-05	0.72E-05		
12 9.60 0.		0.	1.13E-09	0.	0.	0.	3.02E-07	4.90E-07	5.22E-05	1.43E-05	0.73E-05		
13 9.50 0.		0.	9.48E-10	0.	0.	0.	3.02E-07	5.05E-07	5.24E-05	1.42E-05	0.74E-05		
14 9.40 0.		0.	8.85E-10	0.	0.	0.	3.04E-07	5.22E-07	5.25E-05	1.42E-05	0.75E-05		
15 9.30 0.		0.	9.03E-10	0.	0.	0.	3.05E-07	5.39E-07	5.27E-05	1.41E-05	0.76E-05		
16 9.20 0.		0.	7.33E-10	0.	0.	0.	3.06E-07	5.57E-07	5.28E-05	1.41E-05	0.78E-05		
17 9.10 0.		0.	7.51E-10	0.	0.	0.	3.07E-07	5.75E-07	1.76E-05	1.40E-05	0.78E-05		
18 9.00 0.		0.	6.74E-10	0.	0.	0.	3.08E-07	5.95E-07	1.76E-05	1.40E-05	0.78E-05		
19 8.90 0.		0.	6.15E-10	0.	0.	0.	3.09E-07	6.15E-07	1.76E-05	1.39E-05	0.78E-05		
20 8.80 0.		0.	6.01E-10	0.	0.	0.	3.10E-07	6.36E-07	1.76E-05	1.39E-05	0.78E-05		
21 8.70 0.		0.	5.13E-10	0.	0.	0.	3.11E-07	6.58E-07	1.76E-05	1.39E-05	0.78E-05		
22 8.60 0.		0.	5.26E-10	0.	0.	0.	3.12E-07	6.82E-07	1.76E-05	1.38E-05	0.78E-05		
23 8.50 0.		0.	4.53E-10	0.	0.	0.	3.13E-07	7.06E-07	1.77E-05	1.38E-05	0.78E-05		
24 8.40 0.		0.	4.47E-10	0.	0.	0.	3.15E-07	7.32E-07	1.77E-05	1.37E-05	0.78E-05		
25 8.30 0.		0.	3.73E-10	0.	0.	0.	3.17E-07	7.59E-07	1.77E-05	1.37E-05	0.78E-05		
26 8.20 0.		0.	3.75E-10	0.	0.	0.	3.18E-07	7.87E-07	1.78E-05	1.38E-05	0.78E-05		
27 8.10 0.		0.	3.19E-10	0.	0.	0.	3.20E-07	8.17E-07	1.78E-05	1.38E-05	0.78E-05		
28 8.00 0.		0.	3.19E-10	0.	0.	0.	3.22E-07	8.48E-07	1.78E-05	1.39E-05	0.78E-05		
29 7.90 0.		0.	2.70E-10	0.	0.	0.	3.23E-07	8.81E-07	1.79E-05	1.39E-05	0.78E-05		
30 7.80 0.		0.	2.78E-10	0.	0.	0.	3.25E-07	9.16E-07	1.80E-05	1.40E-05	0.78E-05		
31 7.70 0.		0.	2.40E-10	0.	0.	0.	3.27E-07	9.52E-07	1.81E-05	1.40E-05	0.78E-05		
32 7.60 0.		0.	2.26E-10	0.	0.	0.	3.28E-07	9.91E-07	1.81E-05	1.41E-05	0.78E-05		
33 7.50 0.		0.	2.06E-10	0.	0.	0.	3.30E-07	1.03E-06	1.82E-05	1.41E-05	0.78E-05		
34 7.40 0.		0.	1.83E-10	0.	0.	0.	3.32E-07	1.07E-06	1.83E-05	1.42E-05	0.78E-05		
35 7.30 0.		0.	1.72E-10	0.	0.	0.	3.34E-07	1.12E-06	1.84E-05	1.42E-05	0.78E-05		
36 7.20 0.		0.	1.53E-10	0.	0.	0.	3.35E-07	1.17E-06	1.85E-05	1.43E-05	0.78E-05		
37 7.10 0.		0.	1.45E-10	0.	0.	0.	3.38E-07	1.22E-06	1.85E-05	1.43E-05	0.78E-05		
38 7.00 0.		0.	1.32E-10	0.	0.	0.	3.41E-07	1.27E-06	1.86E-05	1.44E-05	0.78E-05		
39 6.90 0.		0.	1.19E-10	0.	0.	0.	3.44E-07	1.33E-06	1.87E-05	1.44E-05	0.78E-05		
40 6.80 0.		0.	1.13E-10	0.	0.	0.	3.46E-07	1.38E-06	1.88E-05	1.45E-05	0.78E-05		
41 6.70 0.		0.	9.79E-11	0.	0.	0.	3.49E-07	1.45E-06	1.89E-05	1.46E-05	0.78E-05		
42 6.60 0.		0.	8.64E-11	0.	0.	0.	3.52E-07	1.52E-06	1.90E-05	1.46E-05	0.78E-05		
43 6.50 0.		0.	6.78E-11	0.	0.	0.	3.55E-07	1.59E-06	1.92E-05	1.47E-05	0.78E-05		
44 6.40 0.		0.	4.58E-11	0.	0.	0.	3.57E-07	1.66E-06	1.93E-05	1.48E-05	0.78E-05		
45 6.30 0.		0.	2.79E-11	0.	0.	0.	3.60E-07	1.74E-06	1.95E-05	1.49E-05	0.78E-05		
46 6.20 0.		0.	1.51E-11	0.	0.	0.	3.63E-07	1.83E-06	1.97E-05	1.50E-05	0.78E-05		
47 6.10 0.		0.	6.95E-12	0.	0.	0.	3.66E-07	1.92E-06	1.99E-05	1.52E-05	0.78E-05		
48 6.00 0.		0.	1.74E-12	0.	0.	0.	3.68E-07	2.02E-06	2.02E-05	1.54E-05	0.78E-05		
49 5.90 0.		0.	1.25E-13	0.	0.	0.	3.68E-07	2.13E-06	2.04E-05	1.56E-05	0.78E-05		
50 5.80 0.		0.	3.12E-15	0.	0.	0.	3.63E-07	2.24E-06	2.07E-05	1.57E-05	0.78E-05		
51 5.70 0.		0.	0.	0.	0.	0.	3.41E-07	2.36E-06	2.10E-05	1.59E-05	0.78E-05		

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1500C. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	NO VIB-ROT	NO 2	U- PHOTO-DET (IONS)	N P.E.	( P.E.	TOTAL AIR	
52	5.60	6.26E-20	0.	1.15E-11	7.47E-11	0.	0.	3.17E-07	2.49E-06	2.13E-05	1.61E-05	4.02E-05
53	5.50	0.	0.	1.40E-11	6.96E-11	0.	0.	3.19E-07	2.63E-06	2.17E-05	1.63E-05	4.10E-05
54	5.40	0.	0.	1.26E-11	5.44E-11	0.	0.	3.20E-07	2.78E-06	2.22E-05	1.65E-05	4.19E-05
55	5.30	0.	0.	1.29E-11	7.07E-11	0.	0.	3.22E-07	2.94E-06	2.28E-05	1.68E-05	4.28E-05
56	5.20	0.	0.	1.38E-11	5.03E-11	0.	0.	3.24E-07	3.12E-06	2.33E-05	1.71E-05	4.38E-05
57	5.10	0.	0.	1.37E-11	6.55E-11	0.	0.	3.27E-07	3.30E-06	2.40E-05	1.74E-05	4.50E-05
58	5.00	8.30E-13	0.	1.25E-11	6.03E-11	0.	0.	3.30E-07	3.51E-06	2.47E-05	1.77E-05	4.63E-05
59	4.90	1.99E-12	0.	1.38E-11	6.46E-11	0.	0.	3.33E-07	3.73E-06	2.55E-05	1.81E-05	4.76E-05
60	4.80	3.66E-12	0.	1.47E-11	6.03E-11	0.	0.	3.35E-07	3.97E-06	2.64E-05	1.85E-05	4.91E-05
61	4.70	4.86E-12	0.	1.45E-11	5.42E-11	0.	0.	3.38E-07	4.23E-06	2.72E-05	1.89E-05	5.07E-05
62	4.60	6.59E-12	0.	1.48E-11	4.94E-11	0.	0.	3.41E-07	4.51E-06	2.83E-05	1.94E-05	5.26E-05
63	4.50	6.85E-12	0.	1.34E-11	3.69E-11	0.	0.	3.44E-07	4.82E-06	2.96E-05	1.99E-05	5.47E-05
64	4.40	7.27E-12	0.	1.34E-11	2.57E-11	0.	0.	3.46E-07	5.16E-06	3.09E-05	2.04E-05	5.69E-05
65	4.30	6.75E-12	0.	1.26E-11	1.58E-11	0.	0.	3.49E-07	5.53E-06	3.24E-05	2.09E-05	5.92E-05
66	4.20	6.24E-12	0.	1.32E-11	1.14E-11	0.	0.	3.52E-07	5.94E-06	3.39E-05	2.15E-05	6.16E-05
67	4.10	5.81E-12	0.	1.28E-11	3.12E-12	0.	0.	3.53E-07	6.39E-06	3.53E-05	2.17E-05	6.37E-05
68	4.00	5.30E-12	0.	1.22E-11	2.37E-12	0.	0.	3.55E-07	6.88E-06	3.68E-05	2.17E-05	6.55E-05
69	3.90	4.45E-12	0.	1.89E-10	1.84E-09	1.11E-11	9.27E-13	3.53E-07	7.43E-06	3.45E-05	7.65E-05	7.16E-05
70	3.80	4.85E-12	0.	2.96E-10	8.74E-09	1.19E-11	0.	3.52E-07	8.04E-06	2.74E-05	7.95E-05	8.37E-05
71	3.70	4.24E-12	0.	3.23E-10	3.18E-09	9.92E-12	0.	3.46E-07	8.72E-06	2.85E-05	8.76E-05	9.64E-05
72	3.60	3.79E-12	0.	2.14E-10	1.79E-08	1.08E-11	0.	3.24E-07	9.47E-06	2.90E-05	9.67E-05	1.05E-05
73	3.50	3.50E-12	0.	2.92E-10	3.85E-08	8.31E-12	0.	2.97E-07	1.03E-05	3.22E-05	1.07E-05	1.36E-05
74	3.40	3.17E-12	0.	1.76E-10	4.92E-09	9.29E-12	0.	1.71E-07	1.13E-05	3.60E-05	1.18E-05	1.59E-05
75	3.30	2.52E-12	0.	1.82E-10	2.07E-08	7.30E-12	0.	1.72E-07	1.23E-05	3.98E-05	1.30E-05	1.71E-05
76	3.20	2.16E-12	0.	1.16E-10	3.81E-08	7.60E-12	0.	1.72E-07	1.35E-05	4.37E-05	1.42E-05	1.94E-05
77	3.10	2.05E-12	0.	8.95E-11	7.74E-09	7.11E-12	0.	1.72E-07	1.49E-05	4.77E-05	1.54E-05	2.22E-05
78	3.00	1.81E-12	0.	5.41E-11	2.00E-08	6.61E-12	0.	1.73E-07	1.65E-05	5.17E-05	1.66E-05	2.56E-05
79	2.90	1.50E-12	0.	3.34E-11	1.13E-08	4.94E-12	0.	1.73E-07	1.82E-05	5.59E-05	1.79E-05	2.92E-05
80	2.80	1.55E-12	0.	1.60E-11	6.49E-09	3.33E-12	0.	1.73E-07	2.03E-05	6.07E-05	1.93E-05	3.36E-05
81	2.70	9.79E-13	0.	7.46E-12	9.54E-09	1.77E-12	0.	1.73E-07	2.26E-05	6.58E-05	2.09E-05	3.86E-05
82	2.60	4.50E-13	0.	3.68E-12	9.32E-10	7.62E-13	0.	1.73E-07	2.54E-05	7.13E-05	2.01E-05	4.38E-05
83	2.50	3.13E-14	0.	4.10E-13	8.68E-10	1.79E-13	0.	1.73E-07	2.86E-05	8.08E-05	1.19E-05	5.94E-05
84	2.40	0.	1.98E-11	7.54E-10	1.89E-14	0.	0.	1.73E-07	3.24E-05	9.31E-05	1.46E-05	7.40E-05
85	2.30	0.	6.64E-11	0.	0.	0.	0.	1.72E-07	3.69E-05	1.05E-04	1.75E-05	8.31E-05
86	2.20	0.	1.65E-10	0.	0.	0.	0.	1.71E-07	4.22E-05	1.20E-04	2.10E-05	9.54E-05
87	2.10	0.	1.85E-10	0.	0.	0.	0.	1.70E-07	4.86E-05	1.35E-04	2.45E-05	1.09E-04
88	2.00	0.	3.52E-10	0.	0.	0.	0.	1.65E-07	5.64E-05	1.50E-04	2.81E-05	1.29E-04
89	1.90	0.	4.89E-10	0.	0.	0.	0.	1.59E-07	6.59E-05	1.63E-04	3.22E-05	1.54E-04
90	1.80	0.	4.07E-10	0.	0.	0.	0.	1.52E-07	7.77E-05	1.63E-04	3.89E-05	1.80E-04
91	1.70	0.	4.76E-10	0.	0.	0.	0.	1.43E-07	9.25E-05	1.96E-04	4.73E-05	2.22E-04
92	1.60	0.	3.49E-10	0.	0.	0.	0.	1.21E-07	1.11E-04	2.28E-04	5.56E-05	2.69E-04
93	1.50	0.	4.09E-10	0.	0.	0.	0.	5.50E-08	1.35E-04	2.92E-04	6.75E-05	3.36E-04
94	1.40	0.	4.09E-10	0.	0.	0.	0.	0.	1.67E-04	3.43E-04	8.02E-05	4.02E-04
95	1.30	0.	3.13E-10	0.	0.	0.	0.	0.	2.10E-04	4.71E-04	1.02E-04	5.90E-04
96	1.20	0.	3.01E-10	0.	0.	0.	0.	0.	2.69E-04	6.13E-04	1.33E-04	8.72E-04
97	1.10	0.	2.78E-10	0.	0.	7.14E-16	0.	0.	3.53E-04	7.43E-04	1.50E-04	1.10E-03
98	1.00	0.	2.55E-10	0.	0.	9.45E-15	0.	0.	4.71E-04	9.49E-04	1.76E-04	1.36E-03
99	0.90	0.	2.10E-10	0.	0.	1.09E-14	0.	0.	6.48E-04	1.27E-03	2.03E-04	1.67E-03
100	0.80	0.	9.87E-11	0.	0.	2.27E-13	0.	0.	9.27E-04	1.77E-03	2.83E-04	2.11E-03
101	0.70	0.	2.39E-11	0.	0.	1.89E-13	0.	0.	1.40E-03	2.16E-03	3.68E-04	2.68E-03
102	0.60	0.	3.49E-12	0.	0.	6.54E-13	0.	0.	2.25E-03	3.07E-03	5.14E-04	3.51E-03

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1500C.	DENSITY (GM/CC)		1.293E-07	(10.0E-05 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	12 8-H NO. 1	NO HETA	NO GAMMA	NO 2	PHOTO-DET (IONS)	0-	FREE-FREE	N	P.E.	0	P.E.	0	TOTAL AIR
1 10.70 0.		0.	4.48E-13	0.	0.	0.	5.73E-10	5.19E-09	7.41E-07	2.35E-07	9.82E-07				
2 10.60 0.		0.	4.03E-13	0.	0.	0.	5.74E-10	5.34E-09	7.41E-07	2.35E-07	9.85E-07				
3 10.50 0.		0.	4.04E-13	0.	0.	0.	5.75E-10	5.49E-09	7.37E-07	2.34E-07	9.77E-07				
4 10.40 0.		0.	3.78E-13	0.	0.	0.	5.76E-10	5.65E-09	7.39E-07	2.33E-07	9.79E-07				
5 10.30 0.		0.	3.26E-13	0.	0.	0.	5.76E-10	5.82E-09	7.40E-07	2.32E-07	9.79E-07				
6 10.20 0.		0.	3.33E-13	0.	0.	0.	5.77E-10	5.99E-09	7.42E-07	2.32E-07	9.80E-07				
7 10.10 0.		0.	3.11E-13	0.	0.	0.	5.78E-10	6.17E-09	7.44E-07	2.31E-07	9.82E-07				
8 10.00 0.		0.	2.68E-13	0.	0.	0.	5.79E-10	6.36E-09	7.46E-07	2.30E-07	9.83E-07				
9 9.90 0.		0.	2.74E-13	0.	0.	0.	5.80E-10	6.56E-09	7.47E-07	2.29E-07	9.84E-07				
10 9.80 0.		0.	2.55E-13	0.	0.	0.	5.81E-10	6.76E-09	7.49E-07	2.29E-07	9.85E-07				
11 9.70 0.		0.	2.17E-13	0.	0.	0.	5.82E-10	6.97E-09	7.51E-07	2.28E-07	9.87E-07				
12 9.60 0.		0.	2.34E-13	0.	0.	0.	5.83E-10	7.19E-09	7.53E-07	2.27E-07	9.88E-07				
13 9.50 0.		0.	1.96E-13	0.	0.	0.	5.84E-10	7.42E-09	7.55E-07	2.26E-07	9.90E-07				
14 9.40 0.		0.	1.83E-13	0.	0.	0.	5.86E-10	7.66E-09	7.58E-07	2.26E-07	9.92E-07				
15 9.30 0.		0.	1.87E-13	0.	0.	0.	5.88E-10	7.91E-09	7.56E-07	2.25E-07	9.89E-07				
16 9.20 0.		0.	1.52E-13	0.	0.	0.	5.90E-10	8.17E-09	7.56E-07	2.24E-07	9.89E-07				
17 9.10 0.		0.	1.56E-13	0.	0.	0.	5.93E-10	8.45E-09	7.56E-07	2.24E-07	9.88E-07				
18 9.00 0.		0.	1.40E-13	0.	0.	0.	5.95E-10	8.73E-09	7.55E-07	2.23E-07	9.88E-07				
19 8.90 0.		0.	1.26E-13	0.	0.	0.	5.97E-10	9.03E-09	7.55E-07	2.22E-07	9.87E-07				
20 8.80 0.		0.	1.25E-13	0.	0.	0.	5.99E-10	9.34E-09	7.56E-07	2.22E-07	9.87E-07				
21 8.70 0.		0.	1.06E-13	0.	0.	0.	6.01E-10	9.67E-09	7.56E-07	2.21E-07	9.87E-07				
22 8.60 0.		0.	1.09E-13	0.	0.	0.	6.03E-10	1.00E-08	7.56E-07	2.20E-07	9.87E-07				
23 8.50 0.		0.	9.39E-14	0.	0.	0.	6.05E-10	1.04E-08	7.56E-07	2.20E-07	9.87E-07				
24 8.40 0.		0.	9.27E-14	0.	0.	0.	6.08E-10	1.07E-08	7.57E-07	2.19E-07	9.87E-07				
25 8.30 0.		0.	7.74E-14	0.	0.	0.	6.12E-10	1.11E-08	7.57E-07	2.19E-07	9.88E-07				
26 8.20 0.		0.	7.78E-14	0.	0.	0.	6.15E-10	1.16E-08	7.58E-07	2.20E-07	9.90E-07				
27 8.10 0.		0.	6.61E-14	0.	0.	0.	6.18E-10	1.20E-08	7.58E-07	2.20E-07	9.91E-07				
28 8.00 0.		0.	6.60E-14	0.	0.	0.	6.21E-10	1.25E-08	7.57E-07	2.21E-07	9.92E-07				
29 7.90 0.		0.	5.60E-14	0.	0.	0.	6.24E-10	1.29E-08	7.59E-07	2.22E-07	9.94E-07				
30 7.80 0.		0.	5.76E-14	0.	0.	0.	6.28E-10	1.34E-08	7.60E-07	2.23E-07	9.97E-07				
31 7.70 0.		0.	4.98E-14	0.	0.	0.	6.31E-10	1.40E-08	7.61E-07	2.24E-07	9.99E-07				
32 7.60 0.		0.	4.68E-14	0.	0.	0.	6.34E-10	1.45E-08	7.62E-07	2.24E-07	5.02E-07				
33 7.50 0.		0.	4.27E-14	0.	0.	0.	6.37E-10	1.51E-08	7.63E-07	2.25E-07	5.04E-07				
34 7.40 0.		0.	3.80E-14	0.	0.	0.	6.41E-10	1.58E-08	7.64E-07	2.26E-07	5.07E-07				
35 7.30 0.		0.	3.56E-14	0.	0.	0.	6.44E-10	1.64E-08	7.66E-07	2.27E-07	5.10E-07				
36 7.20 0.		0.	3.17E-14	0.	0.	0.	6.48E-10	1.71E-08	7.67E-07	2.28E-07	5.12E-07				
37 7.10 0.		0.	3.01E-14	0.	0.	0.	6.53E-10	1.79E-08	7.68E-07	2.28E-07	5.15E-07				
38 7.00 1.39E-17		0.	2.73E-14	0.	0.	0.	6.58E-10	1.86E-08	7.69E-07	2.29E-07	5.18E-07				
39 6.90 2.7E-17		0.	2.47E-14	0.	0.	0.	6.64E-10	1.95E-08	7.70E-07	2.30E-07	5.21E-07				
40 6.80 2.35E-17		0.	2.35E-14	0.	0.	0.	6.69E-10	2.03E-08	7.72E-07	2.31E-07	5.23E-07				
41 6.70 1.66E-17		0.	2.03E-14	0.	0.	0.	6.74E-10	2.13E-08	7.73E-07	2.32E-07	5.27E-07				
42 6.60 1.01E-17		0.	1.79E-14	0.	0.	0.	6.80E-10	2.23E-08	7.75E-07	2.33E-07	5.31E-07				
43 6.50 5.75E-18		0.	1.41E-14	0.	0.	0.	6.85E-10	2.33E-08	7.77E-07	2.34E-07	5.36E-07				
44 6.40 3.25E-18		0.	9.50E-15	0.	0.	0.	6.90E-10	2.44E-08	7.80E-07	2.35E-07	5.41E-07				
45 6.30 1.86E-18		0.	5.78E-15	0.	0.	0.	6.96E-10	2.56E-08	7.82E-07	2.37E-07	5.46E-07				
46 6.20 8.31E-19		0.	3.13E-15	0.	0.	0.	7.01E-10	2.69E-08	7.85E-07	2.40E-07	5.52E-07				
47 6.10 3.76E-19		0.	1.44E-15	0.	0.	0.	7.06E-10	2.82E-08	7.88E-07	2.43E-07	5.60E-07				
48 6.00 1.55E-19		0.	3.61E-16	0.	0.	0.	7.11E-10	2.97E-08	7.92E-07	2.45E-07	5.68E-07				
49 5.90 3.79E-20		0.	2.58E-17	0.	0.	0.	7.11E-10	3.12E-08	7.96E-07	2.48E-07	5.76E-07				
50 5.80 4.82E-21		0.	6.47E-19	0.	0.	0.	7.01E-10	3.29E-08	8.00E-07	2.51E-07	5.84E-07				
51 5.70 3.54E-22		0.	C.	0.	0.	0.	6.58E-10	3.47E-08	8.02E-07	2.54E-07	5.91E-07				

TEMPERATURE

[illegible]

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		15000.		DENSITY (GM/CC)		1.293E-08		(1.0E-05 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	U2 S-R BANDS	U2 S-R CONT.	N2 B-H NO. 1	NO RETA	NO GAMMA	NO	PHOTO-DET (IONS)	PHOTO-DET (IONS)	N	P.E.	0	P.E.	0	P.E.	0	P.E.	
1 10.70	5	0.	4.96E-17	0.	0.	0.	6.31E-13	5.50E-11	7.84E-09	2.52E-09	2.52E-09	1.04E-08	0.	0.	0.	0.	
2 10.60	0.	0.	4.45E-17	0.	0.	0.	6.32E-13	5.66E-11	7.88E-09	2.51E-09	2.51E-09	1.05E-08	0.	0.	0.	0.	
3 10.50	0.	0.	4.46E-17	0.	0.	0.	6.33E-13	5.82E-11	7.92E-09	2.51E-09	2.51E-09	1.05E-08	0.	0.	0.	0.	
4 10.40	0.	0.	4.18E-17	0.	0.	0.	6.34E-13	5.99E-11	7.95E-09	2.50E-09	2.50E-09	1.05E-08	0.	0.	0.	0.	
5 10.30	0.	0.	3.60E-17	0.	0.	0.	6.34E-13	6.17E-11	7.96E-09	2.49E-09	2.49E-09	1.05E-08	0.	0.	0.	0.	
6 10.20	0.	0.	3.69E-17	0.	0.	0.	6.35E-13	6.35E-11	7.98E-09	2.48E-09	2.48E-09	1.05E-08	0.	0.	0.	0.	
7 10.10	0.	0.	3.44E-17	0.	0.	0.	6.36E-13	6.54E-11	8.00E-09	2.47E-09	2.47E-09	1.05E-08	0.	0.	0.	0.	
8 10.00	0.	0.	2.97E-17	0.	0.	0.	6.37E-13	6.74E-11	8.02E-09	2.47E-09	2.47E-09	1.06E-08	0.	0.	0.	0.	
9 9.90	0.	0.	3.04E-17	0.	0.	0.	6.38E-13	6.95E-11	8.04E-09	2.46E-09	2.46E-09	1.06E-08	0.	0.	0.	0.	
10 9.80	0.	0.	2.82E-17	0.	0.	0.	6.39E-13	7.16E-11	8.06E-09	2.45E-09	2.45E-09	1.06E-08	0.	0.	0.	0.	
11 9.70	0.	0.	2.40E-17	0.	0.	0.	6.40E-13	7.39E-11	8.08E-09	2.44E-09	2.44E-09	1.06E-08	0.	0.	0.	0.	
12 9.60	0.	0.	2.58E-17	0.	0.	0.	6.42E-13	7.62E-11	8.11E-09	2.43E-09	2.43E-09	1.06E-08	0.	0.	0.	0.	
13 9.50	0.	0.	2.17E-17	0.	0.	0.	6.43E-13	7.86E-11	8.13E-09	2.43E-09	2.43E-09	1.07E-08	0.	0.	0.	0.	
14 9.40	0.	0.	2.03E-17	0.	0.	0.	6.45E-13	8.12E-11	8.16E-09	2.42E-09	2.42E-09	1.07E-08	0.	0.	0.	0.	
15 9.30	0.	0.	2.07E-17	0.	0.	0.	6.47E-13	8.38E-11	8.28E-09	2.41E-09	2.41E-09	1.07E-08	0.	0.	0.	0.	
16 9.20	0.	0.	1.68E-17	0.	0.	0.	6.50E-13	8.66E-11	8.40E-09	2.40E-09	2.40E-09	1.07E-08	0.	0.	0.	0.	
17 9.10	0.	0.	1.72E-17	0.	0.	0.	6.52E-13	8.95E-11	8.48E-09	2.40E-09	2.40E-09	1.07E-08	0.	0.	0.	0.	
18 9.00	0.	0.	1.55E-17	0.	0.	0.	6.54E-13	9.25E-11	8.56E-09	2.39E-09	2.39E-09	1.07E-08	0.	0.	0.	0.	
19 8.90	0.	0.	1.41E-17	0.	0.	0.	6.57E-13	9.57E-11	8.64E-09	2.38E-09	2.38E-09	1.07E-08	0.	0.	0.	0.	
20 8.80	0.	0.	1.38E-17	0.	0.	0.	6.59E-13	9.90E-11	8.72E-09	2.37E-09	2.37E-09	1.07E-08	0.	0.	0.	0.	
21 8.70	0.	0.	1.18E-17	0.	0.	0.	6.61E-13	1.02E-10	8.80E-09	2.36E-09	2.36E-09	1.07E-08	0.	0.	0.	0.	
22 8.60	0.	0.	1.21E-17	0.	0.	0.	6.64E-13	1.06E-10	8.89E-09	2.36E-09	2.36E-09	1.07E-08	0.	0.	0.	0.	
23 8.50	0.	0.	1.04E-17	0.	0.	0.	6.66E-13	1.10E-10	8.98E-09	2.35E-09	2.35E-09	1.07E-08	0.	0.	0.	0.	
24 8.40	0.	0.	0.03E-17	0.	0.	0.	6.70E-13	1.14E-10	9.07E-09	2.34E-09	2.34E-09	1.07E-08	0.	0.	0.	0.	
25 8.30	0.	0.	0.56E-18	0.	0.	0.	6.73E-13	1.18E-10	9.16E-09	2.34E-09	2.34E-09	1.07E-08	0.	0.	0.	0.	
26 8.20	0.	0.	8.60E-18	0.	0.	0.	6.77E-13	1.22E-10	9.25E-09	2.33E-09	2.33E-09	1.07E-08	0.	0.	0.	0.	
27 8.10	0.	0.	7.31E-18	0.	0.	0.	6.80E-13	1.27E-10	9.34E-09	2.32E-09	2.32E-09	1.07E-08	0.	0.	0.	0.	
28 8.00	0.	0.	7.30E-18	0.	0.	0.	6.84E-13	1.32E-10	9.43E-09	2.31E-09	2.31E-09	1.07E-08	0.	0.	0.	0.	
29 7.90	0.	0.	6.19E-18	0.	0.	0.	6.87E-13	1.37E-10	9.52E-09	2.30E-09	2.30E-09	1.07E-08	0.	0.	0.	0.	
30 7.80	0.	0.	6.37E-18	0.	0.	0.	6.91E-13	1.42E-10	9.61E-09	2.29E-09	2.29E-09	1.07E-08	0.	0.	0.	0.	
31 7.70	0.	0.	5.51E-18	0.	0.	0.	6.94E-13	1.48E-10	9.70E-09	2.28E-09	2.28E-09	1.07E-08	0.	0.	0.	0.	
32 7.60	0.	0.	5.18E-18	0.	0.	0.	6.98E-13	1.54E-10	9.79E-09	2.27E-09	2.27E-09	1.07E-08	0.	0.	0.	0.	
33 7.50	0.	0.	4.73E-18	0.	0.	0.	7.01E-13	1.60E-10	9.88E-09	2.26E-09	2.26E-09	1.07E-08	0.	0.	0.	0.	
34 7.40	0.	0.	4.20E-18	0.	0.	0.	7.05E-13	1.67E-10	9.97E-09	2.25E-09	2.25E-09	1.07E-08	0.	0.	0.	0.	
35 7.30	0.	0.	3.93E-18	0.	0.	0.	7.09E-13	1.74E-10	1.00E-09	2.24E-09	2.24E-09	1.07E-08	0.	0.	0.	0.	
36 7.20	0.	0.	3.51E-18	0.	0.	0.	7.13E-13	1.81E-10	1.01E-09	2.23E-09	2.23E-09	1.07E-08	0.	0.	0.	0.	
37 7.10	0.	0.	3.33E-18	0.	0.	0.	7.19E-13	1.89E-10	1.02E-09	2.22E-09	2.22E-09	1.07E-08	0.	0.	0.	0.	
38 7.00	1.59E-21	0.	3.02E-18	0.	0.	0.	7.25E-13	1.97E-10	1.03E-09	2.21E-09	2.21E-09	1.07E-08	0.	0.	0.	0.	
39 6.90	3.07E-21	0.	2.74E-18	0.	0.	0.	7.30E-13	2.06E-10	1.04E-09	2.20E-09	2.20E-09	1.07E-08	0.	0.	0.	0.	
40 6.80	2.64E-21	0.	2.60E-18	0.	0.	0.	7.36E-13	2.15E-10	1.05E-09	2.19E-09	2.19E-09	1.07E-08	0.	0.	0.	0.	
41 6.70	1.90E-21	0.	2.24E-18	0.	0.	0.	7.42E-13	2.25E-10	1.06E-09	2.18E-09	2.18E-09	1.07E-08	0.	0.	0.	0.	
42 6.60	1.15E-21	0.	1.99E-18	0.	0.	0.	7.48E-13	2.36E-10	1.07E-09	2.17E-09	2.17E-09	1.07E-08	0.	0.	0.	0.	
43 6.50	6.58E-22	0.	1.56E-18	0.	0.	0.	7.54E-13	2.47E-10	1.08E-09	2.16E-09	2.16E-09	1.07E-08	0.	0.	0.	0.	
44 6.40	3.72E-22	0.	1.05E-18	0.	0.	0.	7.60E-13	2.59E-10	1.09E-09	2.15E-09	2.15E-09	1.07E-08	0.	0.	0.	0.	
45 6.30	2.13E-22	0.	6.40E-19	0.	0.	0.	7.65E-13	2.71E-10	1.10E-09	2.14E-09	2.14E-09	1.07E-08	0.	0.	0.	0.	
46 6.20	9.51E-23	0.	1.46E-19	0.	0.	0.	7.71E-13	2.85E-10	1.11E-09	2.13E-09	2.13E-09	1.07E-08	0.	0.	0.	0.	
47 6.10	4.31E-23	0.	1.59E-19	0.	0.	0.	7.77E-13	2.99E-10	1.12E-09	2.12E-09	2.12E-09	1.07E-08	0.	0.	0.	0.	
48 6.00	1.74E-23	0.	3.99E-20	0.	0.	0.	7.83E-13	3.15E-10	1.13E-09	2.11E-09	2.11E-09	1.07E-08	0.	0.	0.	0.	
49 5.90	4.34E-24	0.	2.86E-21	0.	0.	0.	7.89E-13	3.31E-10	1.14E-09	2.10E-09	2.10E-09	1.07E-08	0.	0.	0.	0.	
50 5.80	5.51E-25	0.	7.16E-23	0.	0.	0.	7.95E-13	3.49E-10	1.15E-09	2.09E-09	2.09E-09	1.07E-08	0.	0.	0.	0.	
51 5.70	4.05E-26	0.	0.	0.	0.	0.	8.01E-13	3.67E-10	1.16E-09	2.08E-09	2.08E-09	1.07E-08	0.	0.	0.	0.	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 15000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON O2 S-R	N2	N2	N2+	NO	GAMMA	NO	VIR-ROT	NO	PHOTO-DET	FREE-FREE	N	O	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	BETA					(IONS)	P.E.	P.E.	P.E.	
52	5.60	1.82E-27	0.	0.	2.96E-19	1.93E-18	0.	0.	6.74E-13	3.88E-10	3.26E-09	2.74E-09	6.39E-09
53	5.50	0.	0.	0.	3.61E-19	1.80E-18	0.	0.	6.77E-13	4.09E-10	3.33E-09	2.78E-09	6.52E-09
54	5.40	0.	0.	0.	3.26E-19	1.40E-18	0.	0.	6.81E-13	4.33E-10	3.41E-09	2.82E-09	6.66E-09
55	5.30	0.	0.	0.	3.34E-19	1.83E-18	0.	0.	6.85E-13	4.58E-10	3.49E-09	2.86E-09	6.81E-09
56	5.20	0.	0.	0.	3.57E-19	1.30E-18	0.	0.	6.89E-13	4.85E-10	3.58E-09	2.92E-09	6.98E-09
57	5.10	0.	0.	0.	3.54E-19	1.69E-18	0.	0.	6.95E-13	5.14E-10	3.68E-09	2.97E-09	7.17E-09
58	5.00	2.42E-20	0.	0.	3.22E-19	1.56E-18	0.	0.	7.01E-13	5.46E-10	3.80E-09	3.03E-09	7.37E-09
59	4.90	5.7E-20	0.	0.	3.55E-19	1.67E-18	0.	0.	7.07E-13	5.80E-10	3.92E-09	3.08E-09	7.58E-09
60	4.80	1.07E-19	0.	0.	3.80E-19	1.56E-18	0.	0.	7.13E-13	6.17E-10	4.05E-09	3.15E-09	7.82E-09
61	4.70	1.41E-19	0.	0.	3.75E-19	1.40E-18	0.	0.	7.19E-13	6.57E-10	4.19E-09	3.23E-09	8.08E-09
62	4.60	1.92E-19	0.	0.	3.83E-19	1.28E-18	0.	0.	7.25E-13	7.02E-10	4.35E-09	3.31E-09	8.37E-09
63	4.50	1.99E-19	0.	0.	3.46E-19	9.53E-19	0.	0.	7.30E-13	7.50E-10	4.56E-09	3.40E-09	8.70E-09
64	4.40	2.10E-19	0.	0.	3.45E-19	6.64E-19	0.	0.	7.36E-13	8.02E-10	4.77E-09	3.48E-09	9.05E-09
65	4.30	1.96E-19	0.	0.	3.26E-19	4.09E-19	0.	0.	7.42E-13	8.60E-10	4.99E-09	3.52E-09	9.37E-09
66	4.20	1.82E-19	0.	0.	3.42E-19	2.95E-19	0.	0.	7.48E-13	9.24E-10	5.22E-09	3.59E-09	9.73E-09
67	4.10	1.69E-19	0.	0.	3.30E-19	8.06E-20	0.	0.	7.51E-13	9.94E-10	4.95E-09	3.52E-09	1.01E-09
68	4.00	1.54E-19	0.	0.	3.16E-19	6.12E-20	0.	0.	7.54E-13	1.07E-09	4.91E-09	3.52E-09	1.05E-09
69	3.90	1.24E-19	0.	0.	2.87E-19	6.12E-20	0.	0.	7.51E-13	1.16E-09	4.09E-09	3.52E-09	1.09E-09
70	3.80	1.41E-19	0.	0.	2.67E-19	6.12E-20	0.	0.	7.48E-13	1.25E-09	4.26E-09	3.52E-09	1.13E-09
71	3.70	1.23E-19	0.	0.	2.56E-19	6.12E-20	0.	0.	7.36E-13	1.36E-09	4.15E-09	3.52E-09	1.17E-09
72	3.60	1.10E-19	0.	0.	2.40E-19	6.12E-20	0.	0.	6.89E-13	1.47E-09	4.52E-09	3.52E-09	1.21E-09
73	3.50	1.02E-19	0.	0.	2.15E-19	6.12E-20	0.	0.	6.31E-13	1.60E-09	5.02E-09	3.52E-09	1.25E-09
74	3.40	9.21E-20	0.	0.	2.04E-19	6.12E-20	0.	0.	6.34E-13	1.75E-09	5.48E-09	3.52E-09	1.29E-09
75	3.30	7.32E-20	0.	0.	1.88E-19	6.12E-20	0.	0.	3.65E-13	1.92E-09	6.06E-09	3.52E-09	1.33E-09
76	3.20	6.30E-20	0.	0.	1.66E-19	6.12E-20	0.	0.	3.65E-13	2.10E-09	6.65E-09	3.52E-09	1.37E-09
77	3.10	5.97E-20	0.	0.	1.42E-19	6.12E-20	0.	0.	3.66E-13	2.32E-09	7.26E-09	3.52E-09	1.41E-09
78	3.00	5.28E-20	0.	0.	1.24E-19	6.12E-20	0.	0.	3.67E-13	2.56E-09	7.87E-09	3.52E-09	1.45E-09
79	2.90	4.37E-20	0.	0.	1.09E-19	6.12E-20	0.	0.	3.67E-13	2.84E-09	8.51E-09	3.52E-09	1.49E-09
80	2.80	4.51E-20	0.	0.	9.67E-19	6.12E-20	0.	0.	3.68E-13	3.15E-09	9.24E-09	3.52E-09	1.53E-09
81	2.70	2.85E-20	0.	0.	8.44E-20	6.12E-20	0.	0.	3.68E-13	3.52E-09	9.99E-09	3.52E-09	1.57E-09
82	2.60	1.31E-20	0.	0.	7.17E-20	6.12E-20	0.	0.	3.68E-13	3.95E-09	1.08E-08	3.52E-09	1.61E-09
83	2.50	9.11E-22	0.	0.	6.00E-21	6.12E-20	0.	0.	3.68E-13	4.45E-09	1.18E-08	3.52E-09	1.65E-09
84	2.40	0.	0.	0.	5.39E-21	6.12E-20	0.	0.	3.68E-13	5.04E-09	1.29E-08	3.52E-09	1.69E-09
85	2.30	0.	0.	0.	4.87E-22	6.12E-20	0.	0.	3.65E-13	5.73E-09	1.41E-08	3.52E-09	1.73E-09
86	2.20	0.	0.	0.	0.	6.12E-20	0.	0.	3.64E-13	6.57E-09	1.54E-08	3.52E-09	1.77E-09
87	2.10	0.	0.	0.	0.	6.12E-20	0.	0.	3.62E-13	7.56E-09	1.68E-08	3.52E-09	1.81E-09
88	2.00	0.	0.	0.	0.	6.12E-20	0.	0.	3.51E-13	8.77E-09	1.83E-08	3.52E-09	1.85E-09
89	1.90	0.	0.	0.	0.	6.12E-20	0.	0.	3.37E-13	1.02E-08	2.08E-08	3.52E-09	1.89E-09
90	1.80	0.	0.	0.	0.	6.12E-20	0.	0.	3.22E-13	1.21E-08	2.48E-08	3.52E-09	1.93E-09
91	1.70	0.	0.	0.	0.	6.12E-20	0.	0.	3.04E-13	1.44E-08	2.97E-08	3.52E-09	1.97E-09
92	1.60	0.	0.	0.	0.	6.12E-20	0.	0.	2.87E-13	1.73E-08	3.46E-08	3.52E-09	2.01E-09
93	1.50	0.	0.	0.	0.	6.12E-20	0.	0.	2.71E-13	2.11E-08	4.06E-08	3.52E-09	2.05E-09
94	1.40	0.	0.	0.	0.	6.12E-20	0.	0.	0.	2.60E-08	4.74E-08	3.52E-09	2.09E-09
95	1.30	0.	0.	0.	0.	6.12E-20	0.	0.	0.	3.26E-08	5.38E-08	3.52E-09	2.13E-09
96	1.20	0.	0.	0.	0.	6.12E-20	0.	0.	0.	4.18E-08	6.18E-08	3.52E-09	2.17E-09
97	1.10	0.	0.	0.	0.	6.12E-20	0.	0.	0.	5.48E-08	7.23E-08	3.52E-09	2.21E-09
98	1.00	0.	0.	0.	0.	6.12E-20	0.	0.	0.	7.33E-08	8.99E-08	3.52E-09	2.25E-09
99	0.90	0.	0.	0.	0.	6.12E-20	0.	0.	0.	1.01E-07	1.09E-07	3.52E-09	2.29E-09
100	0.80	0.	0.	0.	0.	6.12E-20	0.	0.	0.	1.44E-07	1.43E-07	3.52E-09	2.33E-09
101	0.70	0.	0.	0.	0.	6.12E-20	0.	0.	0.	2.18E-07	2.13E-07	3.52E-09	2.37E-09
102	0.60	0.	0.	0.	0.	6.12E-20	0.	0.	0.	3.50E-07	3.48E-07	3.52E-09	2.41E-09

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		15000.		DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)		NO		O-		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON O2 S-R		O2 S-R		CONT.		NO		NO		NO		NO		NO		NO	
ENERGY BANDS		E.V.		NO. 1		NO		NO		NO		NO		NO		NO	
E.V.		NO. 1		NO		NO		NO		NO		NO		NO		NO	
1	10.70	0.	5.00E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	4.49E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	4.50E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	4.21E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	3.63E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	3.71E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	3.47E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	2.99E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	3.06E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	2.84E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	2.41E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	2.60E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	2.19E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	2.04E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	2.09E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	1.69E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	1.74E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	1.56E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	1.42E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	1.39E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	1.18E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	1.21E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	1.05E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	1.03E-21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	8.62E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	8.66E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	7.36E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	7.36E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	6.23E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	6.42E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	5.55E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	5.21E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	4.76E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	4.23E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	3.96E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	3.53E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	3.36E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	3.04E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	2.76E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	2.62E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	2.26E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	2.00E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	1.57E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	1.06E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	6.44E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	3.49E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	1.60E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	4.02E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	2.88E-25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	7.21E-27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON 02 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-9		(1.0E-06 NORMAL)		FREE-FREE		O		TOTAL AIR	
ENERGY BANDS	N2	N2	N2+ 1ST NEG.	BETA	GAMMA	NO	NO	NO	NO	PHOTO-DET (IONS)	N	P.E.	P.E.		
1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.
52	5.60	1.84E-31	0.	0.	3.02E-23	1.96E-22	0.	0.	0.	6.91E-16	4.02E-12	3.65E-11	2.79E-11	6.84E-11	
53	5.50	0.	0.	0.	3.68E-23	1.83E-22	0.	0.	0.	6.95E-16	4.25E-12	3.74E-11	2.82E-11	6.99E-11	
54	5.40	0.	0.	0.	3.32E-23	1.43E-22	0.	0.	0.	6.98E-16	4.49E-12	3.85E-11	2.86E-11	7.16E-11	
55	5.30	0.	0.	0.	3.40E-23	1.86E-22	0.	0.	0.	7.03E-16	4.75E-12	3.96E-11	2.90E-11	7.34E-11	
56	5.20	0.	0.	0.	3.63E-23	1.32E-22	0.	0.	0.	7.07E-16	5.03E-12	4.07E-11	2.96E-11	7.53E-11	
57	5.10	0.	0.	0.	3.61E-23	1.72E-22	0.	0.	0.	7.13E-16	5.33E-12	4.19E-11	3.02E-11	7.75E-11	
58	5.00	2.49E-24	0.	0.	3.27E-23	1.58E-22	0.	0.	0.	7.19E-16	5.66E-12	4.33E-11	3.07E-11	7.97E-11	
59	4.90	5.95E-24	0.	0.	3.62E-23	1.70E-22	0.	0.	0.	7.25E-16	6.02E-12	4.48E-11	3.13E-11	8.22E-11	
60	4.80	1.46E-23	0.	0.	3.87E-23	1.59E-22	0.	0.	0.	7.31E-16	6.40E-12	4.64E-11	3.20E-11	8.48E-11	
61	4.70	1.46E-23	0.	0.	3.82E-23	1.43E-22	0.	0.	0.	7.37E-16	6.82E-12	4.81E-11	3.28E-11	8.78E-11	
62	4.60	1.98E-23	0.	0.	3.90E-23	1.30E-22	0.	0.	0.	7.43E-16	7.28E-12	5.03E-11	3.37E-11	9.12E-11	
63	4.50	2.05E-23	0.	0.	3.53E-23	9.70E-23	0.	0.	0.	7.49E-16	7.78E-12	5.28E-11	3.45E-11	9.51E-11	
64	4.40	2.16E-23	0.	0.	3.52E-23	6.77E-23	0.	0.	0.	7.55E-16	8.33E-12	5.54E-11	3.48E-11	9.85E-11	
65	4.30	2.02E-23	0.	0.	3.32E-23	4.16E-23	0.	0.	0.	7.61E-16	8.93E-12	5.81E-11	3.20E-11	9.90E-11	
66	4.20	1.87E-23	0.	0.	3.46E-23	3.01E-23	0.	0.	0.	7.67E-16	9.59E-12	6.09E-11	1.21E-11	8.26E-11	
67	4.10	1.74E-23	0.	0.	3.36E-23	8.20E-24	0.	0.	0.	7.70E-16	1.03E-11	5.84E-11	1.25E-11	8.12E-11	
68	4.00	1.59E-23	0.	0.	3.22E-23	6.23E-24	0.	0.	0.	7.73E-16	1.11E-11	4.89E-11	1.29E-11	7.30E-11	
69	3.90	1.33E-23	0.	0.	3.36E-23	6.23E-24	0.	0.	0.	7.70E-16	1.20E-11	5.13E-11	1.33E-11	7.66E-11	
70	3.80	1.45E-23	0.	0.	3.22E-23	2.44E-24	0.	0.	0.	7.67E-16	1.30E-11	5.06E-11	1.39E-11	7.75E-11	
71	3.70	1.27E-23	0.	0.	3.46E-23	2.44E-24	0.	0.	0.	7.55E-16	1.41E-11	5.31E-11	1.53E-11	8.24E-11	
72	3.60	1.14E-23	0.	0.	3.94E-23	2.83E-23	0.	0.	0.	7.07E-16	1.53E-11	4.68E-11	1.68E-11	7.90E-11	
73	3.50	1.05E-23	0.	0.	6.74E-22	2.19E-23	0.	0.	0.	6.47E-16	1.67E-11	5.19E-11	1.86E-11	8.71E-11	
74	3.40	9.49E-24	0.	0.	4.07E-22	9.01E-18	0.	0.	0.	3.73E-16	1.82E-11	5.78E-11	2.06E-11	9.66E-11	
75	3.30	7.54E-24	0.	0.	4.20E-22	3.79E-17	0.	0.	0.	3.74E-16	1.99E-11	6.39E-11	2.25E-11	1.06E-10	
76	3.20	6.48E-24	0.	0.	2.68E-22	6.98E-17	0.	0.	0.	3.75E-16	2.18E-11	7.03E-11	2.46E-11	1.17E-10	
77	3.10	6.14E-24	0.	0.	2.07E-22	1.42E-17	0.	0.	0.	3.76E-16	2.40E-11	7.69E-11	2.67E-11	1.28E-10	
78	3.00	5.43E-24	0.	0.	1.25E-22	3.66E-17	0.	0.	0.	3.76E-16	2.66E-11	8.35E-11	2.88E-11	1.39E-10	
79	2.90	4.50E-24	0.	0.	7.70E-22	2.08E-17	0.	0.	0.	3.77E-16	2.94E-11	9.04E-11	3.10E-11	1.51E-10	
80	2.80	4.65E-24	0.	0.	3.70E-22	1.19E-17	0.	0.	0.	3.78E-16	3.27E-11	9.83E-11	3.38E-11	1.61E-10	
81	2.70	2.93E-24	0.	0.	1.72E-22	1.75E-17	0.	0.	0.	3.78E-16	3.65E-11	1.06E-10	3.65E-11	1.59E-10	
82	2.60	1.35E-24	0.	0.	8.51E-24	1.71E-18	0.	0.	0.	3.78E-16	4.10E-11	1.17E-10	3.91E-11	1.32E-10	
83	2.50	9.37E-26	0.	0.	9.46E-25	1.59E-18	0.	0.	0.	3.78E-16	4.61E-11	1.28E-10	4.28E-11	1.53E-10	
84	2.40	0.	0.	0.	1.38E-18	4.96E-26	0.	0.	0.	3.78E-16	5.22E-11	1.05E-10	4.54E-11	1.83E-10	
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	3.75E-16	5.95E-11	1.26E-10	5.04E-11	2.16E-10	
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	3.73E-16	6.81E-11	1.48E-10	5.65E-11	2.53E-10	
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	3.72E-16	7.85E-11	1.64E-10	6.25E-11	2.85E-10	
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	3.60E-16	9.10E-11	1.88E-10	6.86E-11	3.27E-10	
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	3.46E-16	1.06E-10	2.14E-10	7.59E-11	3.76E-10	
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	3.31E-16	1.25E-10	2.54E-10	8.75E-11	4.47E-10	
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	3.12E-16	1.49E-10	3.04E-10	9.75E-11	5.31E-10	
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	2.64E-16	1.80E-10	3.28E-10	1.18E-10	5.99E-10	
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	1.20E-16	2.18E-10	2.91E-10	1.06E-10	6.15E-10	
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.69E-10	3.83E-10	9.44E-11	7.47E-10	
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.38E-10	5.40E-10	1.36E-10	1.01E-09	
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.34E-10	7.36E-10	1.68E-10	1.34E-09	
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.69E-10	9.03E-10	2.13E-10	1.68E-09	
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.60E-10	1.10E-09	2.59E-10	2.11E-09	
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.05E-09	1.24E-09	2.86E-10	2.57E-09	
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.44E-09	1.15E-09	2.45E-10	2.89E-09	
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.26E-09	1.32E-09	2.82E-10	3.86E-09	
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.63E-09	1.48E-09	3.19E-10	5.43E-09	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-02 (1.0E 01 NORMAL)		FREE-FREE PHOTO-DET (IONS)		N		P.E.		TOTAL AIR	
1 16.70 0.		2 10.60 0.		3 10.50 0.		4 10.40 0.		5 10.30 0.		6 10.20 0.		7 10.10 0.		8 10.00 0.	
9 9.90 0.		10 9.80 0.		11 9.70 0.		12 9.60 0.		13 9.50 0.		14 9.40 0.		15 9.30 0.		16 9.20 0.	
17 9.10 0.		18 9.00 0.		19 8.90 0.		20 8.80 0.		21 8.70 0.		22 8.60 0.		23 8.50 0.		24 8.40 0.	
25 8.30 0.		26 8.20 0.		27 8.10 0.		28 8.00 0.		29 7.90 0.		30 7.80 0.		31 7.70 0.		32 7.60 0.	
33 7.50 0.		34 7.40 0.		35 7.30 0.		36 7.20 0.		37 7.10 0.		38 7.00 0.		39 6.90 0.		40 6.80 0.	
41 6.70 0.		42 6.60 0.		43 6.50 0.		44 6.40 0.		45 6.30 0.		46 6.20 0.		47 6.10 0.		48 6.00 0.	
49 5.90 0.		50 5.80 0.		51 5.70 0.		52 5.60 0.		53 5.50 0.		54 5.40 0.		55 5.30 0.		56 5.20 0.	
57 5.10 0.		58 5.00 0.		59 4.90 0.		60 4.80 0.		61 4.70 0.		62 4.60 0.		63 4.50 0.		64 4.40 0.	
65 4.30 0.		66 4.20 0.		67 4.10 0.		68 4.00 0.		69 3.90 0.		70 3.80 0.		71 3.70 0.		72 3.60 0.	
73 3.50 0.		74 3.40 0.		75 3.30 0.		76 3.20 0.		77 3.10 0.		78 3.00 0.		79 2.90 0.		80 2.80 0.	
81 2.70 0.		82 2.60 0.		83 2.50 0.		84 2.40 0.		85 2.30 0.		86 2.20 0.		87 2.10 0.		88 2.00 0.	
89 1.90 0.		90 1.80 0.		91 1.70 0.		92 1.60 0.		93 1.50 0.		94 1.40 0.		95 1.30 0.		96 1.20 0.	
97 1.10 0.		98 1.00 0.		99 0.90 0.		100 0.80 0.		101 0.70 0.		102 0.60 0.		103 0.50 0.		104 0.40 0.	
105 0.30 0.		106 0.20 0.		107 0.10 0.		108 0.00 0.		109 0.00 0.		110 0.00 0.		111 0.00 0.		112 0.00 0.	
113 0.00 0.		114 0.00 0.		115 0.00 0.		116 0.00 0.		117 0.00 0.		118 0.00 0.		119 0.00 0.		120 0.00 0.	
121 0.00 0.		122 0.00 0.		123 0.00 0.		124 0.00 0.		125 0.00 0.		126 0.00 0.		127 0.00 0.		128 0.00 0.	
129 0.00 0.		130 0.00 0.		131 0.00 0.		132 0.00 0.		133 0.00 0.		134 0.00 0.		135 0.00 0.		136 0.00 0.	
137 0.00 0.		138 0.00 0.		139 0.00 0.		140 0.00 0.		141 0.00 0.		142 0.00 0.		143 0.00 0.		144 0.00 0.	
145 0.00 0.		146 0.00 0.		147 0.00 0.		148 0.00 0.		149 0.00 0.		150 0.00 0.		151 0.00 0.		152 0.00 0.	
153 0.00 0.		154 0.00 0.		155 0.00 0.		156 0.00 0.		157 0.00 0.		158 0.00 0.		159 0.00 0.		160 0.00 0.	
161 0.00 0.		162 0.00 0.		163 0.00 0.		164 0.00 0.		165 0.00 0.		166 0.00 0.		167 0.00 0.		168 0.00 0.	
169 0.00 0.		170 0.00 0.		171 0.00 0.		172 0.00 0.		173 0.00 0.		174 0.00 0.		175 0.00 0.		176 0.00 0.	
177 0.00 0.		178 0.00 0.		179 0.00 0.		180 0.00 0.		181 0.00 0.		182 0.00 0.		183 0.00 0.		184 0.00 0.	
185 0.00 0.		186 0.00 0.		187 0.00 0.		188 0.00 0.		189 0.00 0.		190 0.00 0.		191 0.00 0.		192 0.00 0.	
193 0.00 0.		194 0.00 0.		195 0.00 0.		196 0.00 0.		197 0.00 0.		198 0.00 0.		199 0.00 0.		200 0.00 0.	
201 0.00 0.		202 0.00 0.		203 0.00 0.		204 0.00 0.		205 0.00 0.		206 0.00 0.		207 0.00 0.		208 0.00 0.	
209 0.00 0.		210 0.00 0.		211 0.00 0.		212 0.00 0.		213 0.00 0.		214 0.00 0.		215 0.00 0.		216 0.00 0.	
217 0.00 0.		218 0.00 0.		219 0.00 0.		220 0.00 0.		221 0.00 0.		222 0.00 0.		223 0.00 0.		224 0.00 0.	
225 0.00 0.		226 0.00 0.		227 0.00 0.		228 0.00 0.		229 0.00 0.		230 0.00 0.		231 0.00 0.		232 0.00 0.	
233 0.00 0.		234 0.00 0.		235 0.00 0.		236 0.00 0.		237 0.00 0.		238 0.00 0.		239 0.00 0.		240 0.00 0.	
241 0.00 0.		242 0.00 0.		243 0.00 0.		244 0.00 0.		245 0.00 0.		246 0.00 0.		247 0.00 0.		248 0.00 0.	
249 0.00 0.		250 0.00 0.		251 0.00 0.		252 0.00 0.		253 0.00 0.		254 0.00 0.		255 0.00 0.		256 0.00 0.	
257 0.00 0.		258 0.00 0.		259 0.00 0.		260 0.00 0.		261 0.00 0.		262 0.00 0.		263 0.00 0.		264 0.00 0.	
265 0.00 0.		266 0.00 0.		267 0.00 0.		268 0.00 0.		269 0.00 0.		270 0.00 0.		271 0.00 0.		272 0.00 0.	
273 0.00 0.		274 0.00 0.		275 0.00 0.		276 0.00 0.		277 0.00 0.		278 0.00 0.		279 0.00 0.		280 0.00 0.	
281 0.00 0.		282 0.00 0.		283 0.00 0.		284 0.00 0.		285 0.00 0.		286 0.00 0.		287 0.00 0.		288 0.00 0.	
289 0.00 0.		290 0.00 0.		291 0.00 0.		292 0.00 0.		293 0.00 0.		294 0.00 0.		295 0.00 0.		296 0.00 0.	
297 0.00 0.		298 0.00 0.		299 0.00 0.		300 0.00 0.		301 0.00 0.		302 0.00 0.		303 0.00 0.		304 0.00 0.	
305 0.00 0.		306 0.00 0.		307 0.00 0.		308 0.00 0.		309 0.00 0.		310 0.00 0.		311 0.00 0.		312 0.00 0.	
313 0.00 0.		314 0.00 0.		315 0.00 0.		316 0.00 0.		317 0.00 0.		318 0.00 0.		319 0.00 0.		320 0.00 0.	
321 0.00 0.		322 0.00 0.		323 0.00 0.		324 0.00 0.		325 0.00 0.		326 0.00 0.		327 0.00 0.		328 0.00 0.	
329 0.00 0.		330 0.00 0.		331 0.00 0.		332 0.00 0.		333 0.00 0.		334 0.00 0.		335 0.00 0.		336 0.00 0.	
337 0.00 0.		338 0.00 0.		339 0.00 0.		340 0.00 0.		341 0.00 0.		342 0.00 0.		343 0.00 0.		344 0.00 0.	
345 0.00 0.		346 0.00 0.		347 0.00 0.		348 0.00 0.		349 0.00 0.		350 0.00 0.		351 0.00 0.		352 0.00 0.	
353 0.00 0.		354 0.00 0.		355 0.00 0.		356 0.00 0.		357 0.00 0.		358 0.00 0.		359 0.00 0.		360 0.00 0.	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 16000. DENSITY (GM/CC) 1.293F-02 (1.0E 01 NORMAL)

PHOTON 02 S-R	N2	N2	N2+	N2	BETA	GAMMA	NO	VIB-ROT	NO	PHOTO-DET	FREE-FREE	N	O	TOTAL AIR
ENERGY RANOS	1ST POS.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.
52	5.60	5.69E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
53	5.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
54	5.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	5.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	5.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	5.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	5.00	7.63E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	4.90	1.84E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	4.80	3.41E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	4.70	4.56E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	4.60	6.22E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
63	4.50	6.49E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
64	4.40	6.89E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
65	4.30	6.47E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
66	4.20	6.01E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
67	4.10	5.61E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
68	4.00	5.14E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
69	3.90	4.34E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	3.80	4.74E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	3.70	4.18E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
72	3.60	3.75E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
73	3.50	3.48E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
74	3.40	3.17E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
75	3.30	2.52E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
76	3.20	2.18E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
77	3.10	2.08E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
78	3.00	1.85E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
79	2.90	1.54E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	2.80	1.60E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
81	2.70	1.02E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82	2.60	4.74E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
83	2.50	3.31E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
84	2.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		16000.		DENSITY (GM/CC) 1.293E-03 (1.0E 00 NORMAL)		NO		O-		FREE-FREE		N		O		TOTAL AIR	
PHOTON ENERGY BANDS		O2 S-R		O2 S-R		NO		NO		PHOTO-DET (IONS)		P.E.		P.E.		P.E.	
E.V.		CONT.		CONT.		BETA		GAMMA		2		P.E.		P.E.		P.E.	
NO. 1		NO. 1		NO. 1		NO. 1		NO. 1		NO. 1		NO. 1		NO. 1		NO. 1	
1	10.70	0.	3.27E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	2.95E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	2.97E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	2.79E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	2.42E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	2.48E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	2.33E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	2.02E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	2.07E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	1.93E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	1.65E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	1.79E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	1.51E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	1.42E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	1.45E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	1.19E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	1.22E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	1.10E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	9.90E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	8.51E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	8.74E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	7.59E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	7.51E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	6.32E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	6.37E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	5.45E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	5.46E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	4.66E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	4.81E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	4.19E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	3.95E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	3.63E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	3.24E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	3.05E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	2.74E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	2.61E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	2.38E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	2.17E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	2.07E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	1.80E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	1.60E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	1.26E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	8.62E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	5.30E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	2.90E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	1.35E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	3.39E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	2.43E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	6.10E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	1.22E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		16000.		DENSITY (GM/CC) 1.293E-03 (1.0E 00 NORMAL)		FREE-FREE (IONS)		U- PHOTO-DET (IONS)		N P.E.		O P.E.		TOTAL AIR	
PHOTON 02 S-R	ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	U- PHOTO-DET (IONS)	N P.E.	O P.E.	O P.E.	O P.E.	O P.E.	O P.E.
52	5.60 5.5E-13	0.	0.	C.	1.32E-04	8.57E-04	0.	0.	9.28E-02	2.49E-02	1.84E-01	9.20E-02	3.94E-01		
53	5.50 0.	0.	0.	0.	1.61E-04	7.97E-04	0.	0.	9.33E-02	2.63E-02	1.87E-01	9.30E-02	4.01E-01		
54	5.40 0.	0.	0.	C.	1.47E-04	6.32E-04	0.	0.	9.38E-02	2.78E-02	1.92E-01	9.43E-02	4.09E-01		
55	5.30 0.	0.	0.	C.	1.50E-04	8.13E-04	0.	0.	9.44E-02	2.94E-02	1.97E-01	9.57E-02	4.17E-01		
56	5.20 0.	0.	0.	0.	1.61E-04	5.92E-04	0.	0.	9.50E-02	3.12E-02	2.02E-01	9.75E-02	4.26E-01		
57	5.10 0.	0.	0.	0.	1.60E-04	7.66E-04	0.	0.	9.58E-02	3.30E-02	2.08E-01	9.93E-02	4.37E-01		
58	5.00 7.3E-06	0.	0.	C.	1.46E-04	7.11E-04	0.	0.	9.66E-02	3.51E-02	2.14E-01	1.01E-01	4.48E-01		
59	4.90 1.7E-05	0.	0.	0.	1.62E-04	7.68E-04	0.	0.	9.74E-02	3.73E-02	2.21E-01	1.03E-01	4.60E-01		
60	4.80 3.3E-05	0.	0.	0.	1.73E-04	7.18E-04	0.	0.	9.82E-02	3.97E-02	2.29E-01	1.05E-01	4.73E-01		
61	4.70 4.4E-05	0.	0.	C.	1.72E-04	6.48E-04	0.	0.	9.90E-02	4.23E-02	2.37E-01	1.08E-01	4.87E-01		
62	4.60 6.02E-05	0.	0.	0.	1.76E-04	5.90E-04	0.	0.	9.98E-02	4.51E-02	2.46E-01	1.11E-01	5.02E-01		
63	4.50 6.28E-05	0.	0.	0.	1.60E-04	4.42E-04	0.	0.	1.01E-01	4.82E-02	2.58E-01	1.14E-01	5.21E-01		
64	4.40 6.66E-05	0.	0.	0.	1.60E-04	3.07E-04	0.	0.	1.01E-01	5.16E-02	2.70E-01	1.16E-01	5.40E-01		
65	4.30 6.25E-05	0.	0.	0.	1.52E-04	1.90E-04	0.	0.	1.02E-01	5.54E-02	2.83E-01	1.19E-01	5.62E-01		
66	4.20 5.81E-05	0.	0.	0.	1.59E-04	1.36E-04	0.	0.	1.03E-01	5.95E-02	2.96E-01	1.23E-01	5.87E-01		
67	4.10 5.42E-05	0.	0.	0.	1.55E-04	3.73E-05	0.	0.	1.03E-01	6.40E-02	3.09E-01	1.23E-01	6.02E-01		
68	4.00 4.97E-05	0.	0.	0.	1.49E-04	2.83E-05	0.	0.	1.04E-01	6.89E-02	3.22E-01	1.23E-01	6.02E-01		
69	3.90 4.21E-05	0.	0.	0.	1.36E-04	1.09E-05	0.	0.	1.03E-01	7.44E-02	3.08E-01	1.23E-01	6.02E-01		
70	3.80 4.59E-05	0.	0.	0.	1.46E-04	0.	0.	0.	1.03E-01	8.05E-02	3.14E-01	1.23E-01	6.02E-01		
71	3.70 4.04E-05	0.	0.	0.	1.23E-04	0.	0.	0.	1.01E-01	8.73E-02	2.55E-01	1.23E-01	6.02E-01		
72	3.60 3.63E-05	0.	0.	0.	1.33E-04	0.	0.	0.	9.50E-02	9.49E-02	2.75E-01	1.23E-01	6.02E-01		
73	3.50 3.37E-05	0.	0.	0.	1.04E-04	0.	0.	0.	8.69E-02	1.03E-01	2.89E-01	1.23E-01	6.02E-01		
74	3.40 3.06E-05	0.	0.	0.	1.16E-04	0.	0.	0.	5.01E-02	1.13E-01	3.22E-01	1.23E-01	6.02E-01		
75	3.30 2.44E-05	0.	0.	0.	9.19E-05	0.	0.	0.	5.02E-02	1.23E-01	3.56E-01	1.23E-01	6.02E-01		
76	3.20 2.11E-05	0.	0.	0.	9.61E-05	0.	0.	0.	5.03E-02	1.35E-01	3.91E-01	1.23E-01	6.02E-01		
77	3.10 2.01E-05	0.	0.	0.	9.03E-05	0.	0.	0.	5.04E-02	1.49E-01	4.26E-01	1.23E-01	6.02E-01		
78	3.00 1.79E-05	0.	0.	0.	8.45E-05	0.	0.	0.	5.05E-02	1.65E-01	4.62E-01	1.23E-01	6.02E-01		
79	2.90 1.49E-05	0.	0.	0.	6.37E-05	0.	0.	0.	5.06E-02	1.83E-01	4.99E-01	1.10E-01	8.46E-01		
80	2.80 1.55E-05	0.	0.	0.	4.35E-05	0.	0.	0.	5.07E-02	2.03E-01	5.42E-01	1.10E-01	8.46E-01		
81	2.70 9.85E-06	0.	0.	0.	2.34E-05	0.	0.	0.	5.07E-02	2.27E-01	5.88E-01	1.28E-01	9.17E-01		
82	2.60 4.58E-06	0.	0.	0.	1.02E-05	0.	0.	0.	5.07E-02	2.54E-01	6.38E-01	1.38E-01	1.08E 00		
83	2.50 3.2CE-07	0.	0.	0.	2.41E-06	0.	0.	0.	5.07E-02	2.87E-01	7.26E-01	1.78E-01	1.14E 00		
84	2.40 0.	3.90E-04	0.	2.42E-04	2.55E-07	0.	0.	0.	5.07E-02	3.25E-01	8.46E-01	1.92E-01	1.31E 00		
85	2.30 0.	1.27E-03	0.	0.	0.	0.	0.	0.	5.03E-02	3.70E-01	7.02E-01	1.11E-01	1.23E 00		
86	2.20 0.	3.21E-03	0.	0.	0.	0.	0.	0.	5.01E-02	4.23E-01	8.30E-01	1.33E-01	1.44E 00		
87	2.10 0.	3.51E-03	0.	0.	0.	0.	0.	0.	4.99E-02	4.87E-01	9.66E-01	1.55E-01	1.66E 00		
88	2.00 0.	6.76E-03	0.	0.	0.	0.	0.	0.	4.83E-02	5.65E-01	1.10E 00	1.78E-01	1.90E 00		
89	1.90 0.	9.07E-03	0.	0.	0.	0.	0.	0.	4.64E-02	6.61E-01	1.26E 00	2.05E-01	2.18E 00		
90	1.80 0.	7.60E-03	0.	0.	0.	0.	0.	0.	4.44E-02	7.80E-01	1.50E 00	2.48E-01	2.58E 00		
91	1.70 0.	8.82E-03	0.	0.	0.	0.	0.	0.	4.18E-02	9.29E-01	1.80E 00	3.01E-01	3.08E 00		
92	1.60 0.	6.51E-03	0.	0.	0.	0.	0.	0.	3.54E-02	1.12E 00	2.10E 00	3.54E-01	3.61E 00		
93	1.50 0.	7.59E-03	0.	0.	0.	0.	0.	0.	1.61E-02	1.36E 00	2.70E 00	4.30E-01	4.52E 00		
94	1.40 0.	7.56E-03	0.	0.	0.	0.	0.	0.	0.	1.68E 00	3.35E 00	5.12E-01	5.55E 00		
95	1.30 0.	5.78E-03	0.	0.	0.	0.	0.	0.	0.	2.11E 00	4.39E 00	6.77E-01	7.19E 00		
96	1.20 0.	5.55E-03	0.	0.	0.	0.	0.	0.	0.	2.71E 00	4.70E 00	8.10E-01	8.10E 00		
97	1.10 0.	5.19E-03	0.	0.	0.	0.	0.	0.	0.	3.54E 00	5.80E 00	8.51E-01	1.02E 01		
98	1.00 0.	4.76E-03	0.	0.	0.	0.	0.	0.	0.	4.72E 00	7.03E 00	9.64E-01	1.27E 01		
99	0.90 0.	3.91E-03	0.	0.	0.	0.	0.	0.	0.	6.50E 00	8.05E 00	1.13E 00	1.57E 01		
100	0.80 0.	1.84E-03	0.	0.	0.	0.	0.	0.	0.	9.33E 00	9.27E 00	1.30E 00	1.99E 01		
101	0.70 0.	4.41E-04	0.	0.	0.	0.	0.	0.	0.	1.41E 01	1.01E 01	1.38E 00	2.56E 01		
102	0.60 0.	7.06E-05	0.	0.	0.	0.	0.	0.	0.	2.27E 01	1.13E 01	1.54E 00	3.55E 01		

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		16000.		DENSITY (GM/CC)		1.293E-04 (1.0E-01 NORMAL)		0-		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY BANDS		02 S-R		02 S-R		CONT.		N2 B-H		NO		NO		BETA		NO	
E.V.		NO. 1		NO. 2		NO. 1		NO. 2		NO. 1		NO. 2		NO. 1		NO. 2	
1	10.70	0.	2.23E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	2.01E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	2.02E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	1.90E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	1.65E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	1.69E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	1.59E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	1.38E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	1.41E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	1.32E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	1.13E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	1.22E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	1.03E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	9.69E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	9.90E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	8.11E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	8.32E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	7.51E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	6.89E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	6.75E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	5.80E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	5.96E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	5.17E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	5.12E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	4.31E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	4.34E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	3.72E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	3.72E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	3.18E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	3.28E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	2.86E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	2.70E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	2.48E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	2.21E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	2.08E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	1.87E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	1.78E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	1.62E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	1.48E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	1.41E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	1.23E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	1.09E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	8.61E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	5.88E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	3.62E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	1.98E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	9.18E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	2.31E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	1.66E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	4.16E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R ENERGY BANDS		N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
52	5.60 4.3 E-15	0.	0.	0.	9.66E-07	6.26E-06	0.	0.	2.36E-03	2.06E-03	1.52E-02	8.14E-03	2.78E-02
53	5.50 0.	0.	0.	0.	1.18E-06	5.82E-06	0.	0.	2.38E-03	2.18E-03	1.55E-02	8.24E-03	2.83E-02
54	5.40 0.	0.	0.	0.	1.07E-06	4.62E-06	0.	0.	2.39E-03	2.30E-03	1.59E-02	8.35E-03	2.89E-02
55	5.30 0.	0.	0.	0.	1.10E-06	5.94E-06	0.	0.	2.40E-03	2.44E-03	1.63E-02	8.47E-03	2.96E-02
56	5.20 0.	0.	0.	0.	1.18E-06	4.32E-06	0.	0.	2.42E-03	2.58E-03	1.67E-02	8.63E-03	3.03E-02
57	5.10 0.	0.	0.	0.	1.17E-06	5.60E-06	0.	0.	2.44E-03	2.74E-03	1.72E-02	8.79E-03	3.11E-02
58	5.00 5.78E-08	0.	0.	0.	1.17E-06	5.19E-06	0.	0.	2.46E-03	2.91E-03	1.77E-02	8.95E-03	3.20E-02
59	4.90 1.39E-07	0.	0.	0.	1.18E-06	5.61E-06	0.	0.	2.48E-03	3.09E-03	1.83E-02	9.12E-03	3.30E-02
60	4.80 2.58E-07	0.	0.	0.	1.27E-06	5.24E-06	0.	0.	2.50E-03	3.29E-03	1.89E-02	9.31E-03	3.40E-02
61	4.70 3.45E-07	0.	0.	0.	1.26E-06	4.73E-06	0.	0.	2.52E-03	3.50E-03	1.95E-02	9.55E-03	3.51E-02
62	4.60 4.71E-07	0.	0.	0.	1.29E-06	4.31E-06	0.	0.	2.54E-03	3.74E-03	2.03E-02	9.80E-03	3.64E-02
63	4.50 4.92E-07	0.	0.	0.	1.17E-06	3.23E-06	0.	0.	2.56E-03	4.00E-03	2.13E-02	1.00E-02	3.79E-02
64	4.40 5.21E-07	0.	0.	0.	1.17E-06	2.24E-06	0.	0.	2.58E-03	4.28E-03	2.23E-02	1.03E-02	3.94E-02
65	4.30 4.89E-07	0.	0.	0.	1.11E-06	1.39E-06	0.	0.	2.61E-03	4.59E-03	2.33E-02	1.06E-02	4.11E-02
66	4.20 4.55E-07	0.	0.	0.	1.16E-06	9.93E-07	0.	0.	2.63E-03	4.93E-03	2.44E-02	1.09E-02	4.29E-02
67	4.10 4.24E-07	0.	0.	0.	1.13E-06	2.73E-07	0.	0.	2.64E-03	5.30E-03	2.55E-02	1.09E-02	4.44E-02
68	4.00 3.89E-07	0.	0.	0.	1.09E-06	2.07E-07	0.	0.	2.65E-03	5.71E-03	2.66E-02	1.06E-02	4.59E-02
69	3.90 3.28E-07	0.	0.	0.	9.93E-07	7.99E-08	0.	0.	2.64E-03	6.17E-03	2.55E-02	1.09E-02	4.74E-02
70	3.80 3.59E-07	0.	0.	0.	1.07E-06	0.	0.	0.	2.63E-03	6.67E-03	2.59E-02	1.03E-02	4.89E-02
71	3.70 3.16E-07	0.	0.	0.	8.97E-07	0.	0.	0.	2.58E-03	7.23E-03	2.10E-02	4.79E-03	5.04E-02
72	3.60 2.84E-07	0.	0.	0.	9.71E-07	0.	0.	0.	2.42E-03	7.86E-03	2.27E-02	5.28E-03	5.19E-02
73	3.50 2.61E-07	0.	0.	0.	7.58E-07	0.	0.	0.	2.22E-03	8.56E-03	2.39E-02	5.82E-03	5.34E-02
74	3.40 2.40E-07	0.	0.	0.	8.48E-07	0.	0.	0.	1.28E-03	9.35E-03	2.66E-02	6.44E-03	5.49E-02
75	3.30 1.91E-07	0.	0.	0.	6.71E-07	0.	0.	0.	1.28E-03	1.02E-02	2.94E-02	7.06E-03	5.64E-02
76	3.20 1.65E-07	0.	0.	0.	7.02E-07	0.	0.	0.	1.28E-03	1.12E-02	3.23E-02	7.71E-03	5.79E-02
77	3.10 1.57E-07	0.	0.	0.	6.60E-07	0.	0.	0.	1.28E-03	1.24E-02	3.52E-02	8.36E-03	5.94E-02
78	3.00 1.40E-07	0.	0.	0.	6.17E-07	0.	0.	0.	1.29E-03	1.36E-02	3.81E-02	9.01E-03	6.09E-02
79	2.90 1.17E-07	0.	0.	0.	4.65E-07	0.	0.	0.	1.29E-03	1.51E-02	4.12E-02	9.71E-03	6.24E-02
80	2.80 1.21E-07	0.	0.	0.	3.18E-07	0.	0.	0.	1.29E-03	1.68E-02	4.48E-02	1.05E-02	6.39E-02
81	2.70 7.71E-08	0.	0.	0.	1.71E-07	0.	0.	0.	1.29E-03	1.88E-02	4.86E-02	1.14E-02	6.54E-02
82	2.60 3.59E-08	0.	0.	0.	7.44E-08	0.	0.	0.	1.29E-03	2.11E-02	5.27E-02	1.22E-02	6.69E-02
83	2.50 2.55E-09	0.	0.	0.	1.76E-08	0.	0.	0.	1.29E-03	2.38E-02	6.00E-02	6.92E-03	6.84E-02
84	2.40 0.	2.66E-06	0.	5.73E-06	1.86E-09	0.	0.	0.	1.29E-03	2.69E-02	6.99E-02	8.22E-03	7.00E-02
85	2.30 0.	8.63E-06	0.	0.	0.	0.	0.	0.	1.28E-03	3.04E-02	5.80E-02	9.83E-03	7.15E-02
86	2.20 0.	2.19E-05	0.	0.	0.	0.	0.	0.	1.28E-03	3.51E-02	6.84E-02	1.18E-02	7.30E-02
87	2.10 0.	2.39E-05	0.	0.	0.	0.	0.	0.	1.27E-03	4.04E-02	7.98E-02	1.38E-02	7.45E-02
88	2.00 0.	4.61E-05	0.	0.	0.	0.	0.	0.	1.23E-03	4.68E-02	9.11E-02	1.57E-02	7.60E-02
89	1.90 0.	6.18E-05	0.	0.	0.	0.	0.	0.	1.18E-03	5.48E-02	1.04E-01	1.81E-02	7.75E-02
90	1.80 0.	5.18E-05	0.	0.	0.	0.	0.	0.	1.13E-03	6.46E-02	1.24E-01	2.19E-02	7.90E-02
91	1.70 0.	6.02E-05	0.	0.	0.	0.	0.	0.	1.07E-03	7.69E-02	1.49E-01	2.66E-02	8.05E-02
92	1.60 0.	4.44E-05	0.	0.	0.	0.	0.	0.	9.03E-04	9.25E-02	1.74E-01	3.14E-02	8.20E-02
93	1.50 0.	5.17E-05	0.	0.	0.	0.	0.	0.	4.10E-04	1.12E-01	2.23E-01	3.81E-02	8.35E-02
94	1.40 0.	5.15E-05	0.	0.	0.	0.	0.	0.	0.	1.39E-01	2.77E-01	4.53E-02	8.50E-02
95	1.30 0.	3.94E-05	0.	0.	0.	0.	0.	0.	0.	1.75E-01	3.63E-01	5.99E-02	8.65E-02
96	1.20 0.	3.78E-05	0.	0.	0.	0.	0.	0.	0.	2.24E-01	4.79E-01	7.54E-02	8.80E-02
97	1.10 0.	3.54E-05	0.	0.	0.	0.	0.	0.	0.	2.93E-01	6.31E-01	9.53E-02	8.95E-02
98	1.00 0.	3.25E-05	0.	0.	0.	0.	0.	0.	0.	3.91E-01	8.51E-01	1.25E-01	9.10E-02
99	0.90 0.	2.67E-05	0.	0.	0.	0.	0.	0.	0.	5.39E-01	1.16E-01	1.65E-01	9.25E-02
100	0.80 0.	1.26E-05	0.	0.	0.	0.	0.	0.	0.	7.73E-01	1.66E-01	2.12E-01	9.40E-02
101	0.70 0.	3.00E-06	0.	0.	0.	0.	0.	0.	0.	1.17E-01	2.35E-01	2.81E-01	9.55E-02
102	0.60 0.	4.81E-07	0.	0.	0.	0.	0.	0.	0.	1.88E-01	3.33E-01	3.81E-01	9.70E-02



TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)
16000.	1.293E-05	(10.0E-03 NORMAL)

PHOTON ENERGY E.V.	U2 S-R BANDS	O2 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET	FREE-IONS	N P.E.	O P.E.	TOTAL AIR
1 1.70 0.	0.	0.	6.85E-07	0.	0.	0.	3.46E-05	1.66E-05	1.08E-01	5.01E-04	1.08E-01
2 1.60 0.	0.	0.	6.19E-07	0.	0.	0.	3.46E-05	1.71E-05	1.91E-03	5.00E-04	2.46E-03
3 1.50 0.	0.	0.	6.22E-07	0.	0.	0.	3.47E-05	1.76E-05	1.92E-03	4.98E-04	2.47E-03
4 1.40 0.	0.	0.	5.86E-07	0.	0.	0.	3.47E-05	1.81E-05	1.93E-03	4.96E-04	2.48E-03
5 1.30 0.	0.	0.	5.07E-07	0.	0.	0.	3.48E-05	1.86E-05	1.93E-03	4.95E-04	2.48E-03
6 1.20 0.	0.	0.	5.21E-07	0.	0.	0.	3.48E-05	1.92E-05	1.94E-03	4.93E-04	2.49E-03
7 1.10 0.	0.	0.	4.88E-07	0.	0.	0.	3.49E-05	1.98E-05	1.94E-03	4.91E-04	2.49E-03
8 1.00 0.	0.	0.	4.24E-07	0.	0.	0.	3.49E-05	2.04E-05	1.94E-03	4.89E-04	2.49E-03
9 0.90 0.	0.	0.	4.35E-07	0.	0.	0.	3.50E-05	2.10E-05	1.95E-03	4.88E-04	2.49E-03
10 0.80 0.	0.	0.	4.05E-07	0.	0.	0.	3.50E-05	2.17E-05	1.95E-03	4.86E-04	2.49E-03
11 0.70 0.	0.	0.	3.47E-07	0.	0.	0.	3.51E-05	2.23E-05	1.96E-03	4.84E-04	2.50E-03
12 0.60 0.	0.	0.	3.75E-07	0.	0.	0.	3.52E-05	2.30E-05	1.96E-03	4.82E-04	2.50E-03
13 0.50 0.	0.	0.	3.17E-07	0.	0.	0.	3.52E-05	2.38E-05	1.97E-03	4.81E-04	2.51E-03
14 0.40 0.	0.	0.	2.98E-07	0.	0.	0.	3.54E-05	2.46E-05	1.97E-03	4.79E-04	2.51E-03
15 0.30 0.	0.	0.	3.05E-07	0.	0.	0.	3.55E-05	2.54E-05	1.98E-03	4.77E-04	2.52E-03
16 0.20 0.	0.	0.	2.50E-07	0.	0.	0.	3.56E-05	2.62E-05	1.99E-03	4.76E-04	2.52E-03
17 0.10 0.	0.	0.	2.56E-07	0.	0.	0.	3.58E-05	2.71E-05	6.84E-04	4.74E-04	1.22E-03
18 0.00 0.	0.	0.	2.31E-07	0.	0.	0.	3.59E-05	2.80E-05	6.84E-04	4.72E-04	1.22E-03
19 0.80 0.	0.	0.	2.12E-07	0.	0.	0.	3.60E-05	2.89E-05	6.84E-04	4.71E-04	1.22E-03
20 0.80 0.	0.	0.	2.08E-07	0.	0.	0.	3.61E-05	3.00E-05	6.85E-04	4.69E-04	1.22E-03
21 0.70 0.	0.	0.	1.78E-07	0.	0.	0.	3.63E-05	3.10E-05	6.85E-04	4.68E-04	1.22E-03
22 0.60 0.	0.	0.	1.83E-07	0.	0.	0.	3.64E-05	3.21E-05	6.86E-04	4.66E-04	1.22E-03
23 0.50 0.	0.	0.	1.59E-07	0.	0.	0.	3.65E-05	3.33E-05	6.87E-04	4.65E-04	1.22E-03
24 0.40 0.	0.	0.	1.58E-07	0.	0.	0.	3.67E-05	3.45E-05	6.89E-04	4.63E-04	1.22E-03
25 0.30 0.	0.	0.	1.34E-07	0.	0.	0.	3.69E-05	3.58E-05	6.90E-04	4.63E-04	1.23E-03
26 0.20 0.	0.	0.	1.34E-07	0.	0.	0.	3.71E-05	3.71E-05	6.92E-04	4.64E-04	1.23E-03
27 0.10 0.	0.	0.	1.14E-07	0.	0.	0.	3.73E-05	3.85E-05	6.93E-04	4.66E-04	1.23E-03
28 0.00 0.	0.	0.	1.15E-07	0.	0.	0.	3.75E-05	4.00E-05	6.96E-04	4.67E-04	1.25E-03
29 0.70 0.	0.	0.	9.77E-08	0.	0.	0.	3.77E-05	4.15E-05	7.00E-04	4.68E-04	1.25E-03
30 0.70 0.	0.	0.	1.01E-07	0.	0.	0.	3.79E-05	4.31E-05	7.03E-04	4.70E-04	1.25E-03
31 0.70 0.	0.	0.	8.78E-08	0.	0.	0.	3.81E-05	4.49E-05	7.07E-04	4.71E-04	1.26E-03
32 0.60 0.	0.	0.	8.29E-08	0.	4.67E-12	0.	3.82E-05	4.67E-05	7.10E-04	4.72E-04	1.27E-03
33 0.50 0.	0.	0.	7.62E-08	0.	1.70E-11	0.	3.84E-05	4.86E-05	7.14E-04	4.74E-04	1.27E-03
34 0.40 0.	0.	0.	6.80E-08	0.	1.31E-10	0.	3.87E-05	5.06E-05	7.17E-04	4.75E-04	1.28E-03
35 0.30 0.	0.	0.	6.40E-08	0.	5.41E-10	0.	3.89E-05	5.27E-05	7.21E-04	4.77E-04	1.29E-03
36 0.20 0.	0.	0.	5.74E-08	0.	1.46E-09	0.	3.91E-05	5.49E-05	7.24E-04	4.78E-04	1.30E-03
37 0.10 0.	0.	0.	5.48E-08	0.	4.48E-09	0.	3.94E-05	5.73E-05	7.28E-04	4.79E-04	1.30E-03
38 0.00 0.	0.	0.	4.99E-08	0.	9.37E-09	0.	3.97E-05	5.98E-05	7.31E-04	4.81E-04	1.31E-03
39 0.50E-11 0.	0.	0.	4.55E-08	0.	1.23E-08	0.	4.00E-05	6.25E-05	7.35E-04	4.82E-04	1.32E-03
40 2.98E-11 0.	0.	0.	4.34E-08	0.	2.22E-08	0.	4.04E-05	6.53E-05	7.39E-04	4.84E-04	1.33E-03
41 0.80 0.	0.	0.	3.78E-08	0.	2.27E-08	0.	4.07E-05	6.83E-05	7.42E-04	4.86E-04	1.34E-03
42 1.12E-11 0.	0.	0.	3.36E-08	0.	1.77E-08	0.	4.10E-05	7.15E-05	7.48E-04	4.88E-04	1.35E-03
43 6.50 6.45E-12 0.	0.	0.	2.65E-08	0.	2.71E-08	0.	4.13E-05	7.49E-05	7.55E-04	4.90E-04	1.36E-03
44 6.40 3.67E-12 0.	0.	0.	1.81E-08	1.01E-10	2.64E-08	0.	4.16E-05	7.85E-05	7.62E-04	4.92E-04	1.37E-03
45 6.30 2.11E-12 0.	0.	0.	1.11E-08	4.72E-10	1.73E-08	0.	4.20E-05	8.23E-05	7.70E-04	4.95E-04	1.39E-03
46 6.20 9.46E-13 0.	0.	0.	6.09E-09	5.64E-10	2.48E-08	0.	4.23E-05	8.64E-05	7.77E-04	5.01E-04	1.41E-03
47 6.10 4.31E-13 0.	0.	0.	2.82E-09	1.89E-09	3.18E-08	0.	4.26E-05	9.07E-05	7.85E-04	5.06E-04	1.42E-03
48 6.00 1.79E-13 0.	0.	0.	7.12E-10	1.78E-09	1.50E-08	0.	4.29E-05	9.54E-05	7.96E-04	5.11E-04	1.45E-03
49 5.90 4.35E-14 0.	0.	0.	5.10E-11	2.59E-09	1.48E-08	0.	4.29E-05	1.00E-04	8.07E-04	5.17E-04	1.47E-03
50 5.80 5.57E-15 0.	0.	0.	1.28E-12	3.61E-09	1.50E-08	0.	4.23E-05	1.06E-04	8.18E-04	5.22E-04	1.49E-03
51 5.70 4.15E-16 0.	0.	0.	0.	4.18E-09	1.68E-08	0.	3.97E-05	1.11E-04	8.29E-04	5.27E-04	1.51E-03





TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	1.293E-06	110.0E-04	NORMAL
16000.				

PHOTON ENERGY E.V.	PHOTON O2 S-R BANDS	U2 S-R CUNT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N P.E.	O P.E	TOTAL AIR	
1 16.70 0.	0.	0.	4.08E-10	0.	0.	0.	1.61E-07	4.19E-07	4.67E-05	1.47E-05	6.20E-05
2 10.60 0.	0.	0.	3.68E-10	0.	0.	0.	1.62E-07	4.31E-07	4.69E-05	1.47E-05	6.22E-05
3 10.50 0.	0.	0.	3.70E-10	0.	0.	0.	1.62E-07	4.44E-07	4.71E-05	1.46E-05	6.23E-05
4 10.40 0.	0.	0.	3.49E-10	0.	0.	0.	1.62E-07	4.57E-07	4.73E-05	1.46E-05	6.25E-05
5 10.30 0.	0.	0.	3.02E-10	0.	0.	0.	1.62E-07	4.70E-07	4.74E-05	1.45E-05	6.26E-05
6 10.20 0.	0.	0.	3.10E-10	0.	0.	0.	1.62E-07	4.84E-07	4.75E-05	1.45E-05	6.26E-05
7 10.10 0.	0.	0.	2.91E-10	0.	0.	0.	1.63E-07	4.99E-07	4.76E-05	1.44E-05	6.26E-05
8 10.00 0.	0.	0.	2.53E-10	0.	0.	0.	1.63E-07	5.14E-07	4.74E-05	1.44E-05	6.24E-05
9 9.90 0.	0.	0.	2.59E-10	0.	0.	0.	1.63E-07	5.30E-07	4.75E-05	1.43E-05	6.25E-05
10 9.80 0.	0.	0.	2.41E-10	0.	0.	0.	1.64E-07	5.46E-07	4.76E-05	1.43E-05	6.26E-05
11 9.70 0.	0.	0.	2.07E-10	0.	0.	0.	1.64E-07	5.63E-07	4.77E-05	1.42E-05	6.27E-05
12 9.60 0.	0.	0.	2.23E-10	0.	0.	0.	1.64E-07	5.81E-07	4.79E-05	1.42E-05	6.28E-05
13 9.50 0.	0.	0.	1.89E-10	0.	0.	0.	1.64E-07	6.00E-07	4.80E-05	1.41E-05	6.29E-05
14 9.40 0.	0.	0.	1.77E-10	0.	0.	0.	1.65E-07	6.19E-07	4.81E-05	1.41E-05	6.30E-05
15 9.30 0.	0.	0.	1.81E-10	0.	0.	0.	1.66E-07	6.39E-07	4.83E-05	1.40E-05	6.31E-05
16 9.20 0.	0.	0.	1.49E-10	0.	0.	0.	1.66E-07	6.60E-07	4.84E-05	1.40E-05	6.32E-05
17 9.10 0.	0.	0.	1.52E-10	0.	0.	0.	1.67E-07	6.82E-07	1.67E-05	1.39E-05	6.35E-05
18 9.00 0.	0.	0.	1.38E-10	0.	0.	0.	1.67E-07	7.06E-07	1.67E-05	1.39E-05	6.35E-05
19 8.90 0.	0.	0.	1.26E-10	0.	0.	0.	1.68E-07	7.30E-07	1.67E-05	1.38E-05	6.35E-05
20 8.80 0.	0.	0.	1.24E-10	0.	0.	0.	1.69E-07	7.55E-07	1.67E-05	1.38E-05	6.34E-05
21 8.70 0.	0.	0.	1.06E-10	0.	0.	0.	1.69E-07	7.82E-07	1.68E-05	1.37E-05	6.34E-05
22 8.60 0.	0.	0.	1.09E-10	0.	0.	0.	1.70E-07	8.10E-07	1.68E-05	1.37E-05	6.34E-05
23 8.50 0.	0.	0.	9.48E-11	0.	0.	0.	1.70E-07	8.39E-07	1.68E-05	1.36E-05	6.35E-05
24 8.40 0.	0.	0.	9.38E-11	0.	0.	0.	1.71E-07	8.70E-07	1.68E-05	1.36E-05	6.35E-05
25 8.30 0.	0.	0.	7.89E-11	0.	0.	0.	1.72E-07	9.02E-07	1.69E-05	1.36E-05	6.35E-05
26 8.20 0.	0.	0.	7.95E-11	0.	0.	0.	1.73E-07	9.35E-07	1.69E-05	1.36E-05	6.35E-05
27 8.10 0.	0.	0.	6.80E-11	0.	0.	0.	1.74E-07	9.71E-07	1.70E-05	1.37E-05	6.38E-05
28 8.00 0.	0.	0.	6.82E-11	0.	0.	0.	1.75E-07	1.01E-06	1.70E-05	1.37E-05	6.39E-05
29 7.90 0.	0.	0.	5.82E-11	0.	0.	0.	1.76E-07	1.05E-06	1.71E-05	1.38E-05	6.32E-05
30 7.80 0.	0.	0.	6.01E-11	0.	0.	0.	1.77E-07	1.09E-06	1.72E-05	1.38E-05	6.32E-05
31 7.70 0.	0.	0.	5.23E-11	0.	0.	0.	1.77E-07	1.13E-06	1.73E-05	1.38E-05	6.32E-05
32 7.60 0.	0.	0.	4.94E-11	0.	3.35E-15	0.	1.78E-07	1.18E-06	1.73E-05	1.39E-05	6.32E-05
33 7.50 0.	0.	0.	4.54E-11	0.	1.22E-14	0.	1.79E-07	1.22E-06	1.74E-05	1.39E-05	6.27E-05
34 7.40 0.	0.	0.	4.05E-11	0.	9.37E-14	0.	1.80E-07	1.27E-06	1.75E-05	1.40E-05	6.31E-05
35 7.30 0.	0.	0.	3.81E-11	0.	3.88E-13	0.	1.81E-07	1.33E-06	1.76E-05	1.40E-05	6.31E-05
36 7.20 0.	0.	0.	3.42E-11	0.	1.05E-12	0.	1.82E-07	1.38E-06	1.77E-05	1.40E-05	6.33E-05
37 7.10 0.	0.	0.	3.26E-11	0.	3.21E-12	0.	1.84E-07	1.44E-06	1.78E-05	1.41E-05	6.35E-05
38 7.00 0.	0.	0.	2.97E-11	0.	6.71E-12	0.	1.85E-07	1.51E-06	1.79E-05	1.41E-05	6.37E-05
39 6.90 0.	0.	0.	2.71E-11	0.	8.82E-12	0.	1.87E-07	1.57E-06	1.80E-05	1.42E-05	6.39E-05
40 6.80 0.	0.	0.	2.59E-11	0.	1.59E-11	0.	1.88E-07	1.65E-06	1.80E-05	1.42E-05	6.41E-05
41 6.70 0.	0.	0.	2.25E-11	0.	1.63E-11	0.	1.90E-07	1.72E-06	1.81E-05	1.43E-05	6.43E-05
42 6.60 0.	0.	0.	2.00E-11	0.	1.27E-11	0.	1.91E-07	1.80E-06	1.83E-05	1.43E-05	6.46E-05
43 6.50 0.	0.	0.	1.58E-11	0.	1.94E-11	0.	1.93E-07	1.89E-06	1.85E-05	1.43E-05	6.49E-05
44 6.40 0.	0.	0.	1.08E-11	7.27E-14	1.89E-11	0.	1.94E-07	1.98E-06	1.86E-05	1.45E-05	6.53E-05
45 6.30 0.	0.	0.	6.62E-12	3.38E-13	1.27E-11	0.	1.96E-07	2.07E-06	1.88E-05	1.46E-05	6.56E-05
46 6.20 0.	0.	0.	3.62E-12	4.76E-13	1.78E-11	0.	1.97E-07	2.18E-06	1.90E-05	1.47E-05	6.61E-05
47 6.10 0.	0.	0.	1.68E-12	1.35E-12	2.28E-11	0.	1.99E-07	2.29E-06	1.92E-05	1.49E-05	6.65E-05
48 6.00 0.	0.	0.	4.24E-13	1.27E-12	1.08E-11	0.	2.00E-07	2.40E-06	1.94E-05	1.50E-05	6.71E-05
49 5.90 0.	0.	0.	3.03E-14	1.86E-12	1.06E-11	0.	2.00E-07	2.53E-06	1.97E-05	1.52E-05	6.76E-05
50 5.80 0.	0.	0.	7.62E-16	2.59E-12	1.08E-11	0.	1.97E-07	2.66E-06	2.00E-05	1.53E-05	6.82E-05
51 5.70 0.	0.	0.	3.54E-19	3.00E-12	1.20E-11	0.	1.85E-07	2.81E-06	2.03E-05	1.55E-05	6.87E-05





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TEMPERATURE (DEGREES K)			DENSITY (GM/CC)			1.293E-08 (1.0E-05 NORMAL)			
PHOTON ENERGY E.V.	O2 S-R CONT.	N2 O-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	6.38E-18	0.	0.	0.	2.46E-13 5.41E-11	6.34E-09	1.99E-09	8.38E-09
2 10.60 0.	0.	5.76E-18	0.	0.	0.	2.46E-13 5.57E-11	6.37E-09	1.98E-09	8.41E-09
3 10.50 0.	0.	5.79E-18	0.	0.	0.	2.46E-13 5.73E-11	6.40E-09	1.98E-09	8.43E-09
4 10.40 0.	0.	5.45E-18	0.	0.	0.	2.46E-13 5.90E-11	6.42E-09	1.97E-09	8.45E-09
5 10.30 0.	0.	4.72E-18	0.	0.	0.	2.47E-13 6.07E-11	6.43E-09	1.96E-09	8.45E-09
6 10.20 0.	0.	4.85E-18	0.	0.	0.	2.47E-13 6.25E-11	6.45E-09	1.96E-09	8.47E-09
7 10.10 0.	0.	4.54E-18	0.	0.	0.	2.47E-13 6.44E-11	6.47E-09	1.95E-09	8.49E-09
8 10.00 0.	0.	3.95E-18	0.	0.	0.	2.48E-13 6.64E-11	6.49E-09	1.94E-09	8.50E-09
9 9.90 0.	0.	4.05E-18	0.	0.	0.	2.48E-13 6.84E-11	6.51E-09	1.93E-09	8.52E-09
10 9.80 0.	0.	3.77E-18	0.	0.	0.	2.49E-13 7.05E-11	6.53E-09	1.93E-09	8.53E-09
11 9.70 0.	0.	3.23E-18	0.	0.	0.	2.49E-13 7.27E-11	6.55E-09	1.92E-09	8.55E-09
12 9.60 0.	0.	3.49E-18	0.	0.	0.	2.50E-13 7.50E-11	6.58E-09	1.91E-09	8.56E-09
13 9.50 0.	0.	2.95E-18	0.	0.	0.	2.50E-13 7.75E-11	6.60E-09	1.91E-09	8.58E-09
14 9.40 0.	0.	2.77E-18	0.	0.	0.	2.51E-13 8.00E-11	6.62E-09	1.90E-09	8.60E-09
15 9.30 0.	0.	2.84E-18	0.	0.	0.	2.52E-13 8.26E-11	6.70E-09	1.89E-09	8.67E-09
16 9.20 0.	0.	2.32E-18	0.	0.	0.	2.53E-13 8.53E-11	2.70E-09	1.89E-09	8.67E-09
17 9.10 0.	0.	2.38E-18	0.	0.	0.	2.54E-13 8.82E-11	2.71E-09	1.88E-09	8.68E-09
18 9.00 0.	0.	2.15E-18	0.	0.	0.	2.55E-13 9.11E-11	2.71E-09	1.88E-09	8.68E-09
19 8.90 0.	0.	1.97E-18	0.	0.	0.	2.56E-13 9.43E-11	2.72E-09	1.86E-09	8.68E-09
20 8.80 0.	0.	1.93E-18	0.	0.	0.	2.56E-13 9.76E-11	2.73E-09	1.86E-09	8.68E-09
21 8.70 0.	0.	1.66E-18	0.	0.	0.	2.57E-13 1.01E-10	2.73E-09	1.85E-09	8.69E-09
22 8.60 0.	0.	1.71E-18	0.	0.	0.	2.58E-13 1.05E-10	2.74E-09	1.85E-09	8.69E-09
23 8.50 0.	0.	1.48E-18	0.	0.	0.	2.59E-13 1.08E-10	2.75E-09	1.84E-09	8.70E-09
24 8.40 0.	0.	1.47E-18	0.	0.	0.	2.61E-13 1.12E-10	2.76E-09	1.83E-09	8.71E-09
25 8.30 0.	0.	1.23E-18	0.	0.	0.	2.62E-13 1.16E-10	2.76E-09	1.83E-09	8.71E-09
26 8.20 0.	0.	1.24E-18	0.	0.	0.	2.63E-13 1.21E-10	2.76E-09	1.84E-09	8.71E-09
27 8.10 0.	0.	1.66E-18	0.	0.	0.	2.65E-13 1.25E-10	2.76E-09	1.84E-09	8.71E-09
28 8.00 0.	0.	1.07E-18	0.	0.	0.	2.66E-13 1.30E-10	2.76E-09	1.85E-09	8.71E-09
29 7.90 0.	0.	9.10E-19	0.	0.	0.	2.67E-13 1.35E-10	2.76E-09	1.86E-09	8.71E-09
30 7.80 0.	0.	9.39E-19	0.	0.	0.	2.69E-13 1.41E-10	2.76E-09	1.86E-09	8.71E-09
31 7.70 0.	0.	8.18E-19	0.	0.	0.	2.70E-13 1.46E-10	2.76E-09	1.87E-09	8.71E-09
32 7.60 0.	0.	7.72E-19	0.	0.	0.	2.71E-13 1.52E-10	2.76E-09	1.87E-09	8.71E-09
33 7.50 0.	0.	7.09E-19	0.	0.	0.	2.73E-13 1.58E-10	2.76E-09	1.88E-09	8.71E-09
34 7.40 0.	0.	6.33E-19	0.	0.					

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 16000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON Q2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO	GAMMA	NO	VIB-ROT	NO	2	PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52	5.60	2.88E-28	0.	0.	4.22E-20	2.74E-19	0.	0.	0.	0.	2.62E-13	3.82E-10	2.72E-09	2.11E-09	5.21E-09
53	5.50	0.	0.	0.	5.16E-20	2.55E-19	0.	0.	0.	0.	2.63E-13	4.04E-10	2.78E-09	2.13E-09	5.31E-09
54	5.40	0.	0.	0.	4.68E-20	2.02E-19	0.	0.	0.	0.	2.65E-13	4.27E-10	2.85E-09	2.16E-09	5.44E-09
55	5.30	0.	0.	0.	4.80E-20	2.60E-19	0.	0.	0.	0.	2.67E-13	4.51E-10	2.93E-09	2.19E-09	5.57E-09
56	5.20	0.	0.	0.	5.15E-20	1.89E-19	0.	0.	0.	0.	2.68E-13	4.78E-10	3.01E-09	2.24E-09	5.72E-09
57	5.10	0.	0.	0.	5.12E-20	2.45E-19	0.	0.	0.	0.	2.71E-13	5.07E-10	3.10E-09	2.28E-09	5.88E-09
58	5.00	3.86E-21	0.	0.	4.66E-20	2.27E-19	0.	0.	0.	0.	2.73E-13	5.38E-10	3.20E-09	2.32E-09	6.05E-09
59	4.90	9.30E-21	0.	0.	5.17E-20	2.45E-19	0.	0.	0.	0.	2.75E-13	5.72E-10	3.30E-09	2.36E-09	6.24E-09
60	4.80	1.73E-20	0.	0.	5.53E-20	2.29E-19	0.	0.	0.	0.	2.77E-13	6.09E-10	3.42E-09	2.41E-09	6.44E-09
61	4.70	2.31E-20	0.	0.	5.50E-20	2.07E-19	0.	0.	0.	0.	2.80E-13	6.49E-10	3.54E-09	2.47E-09	6.67E-09
62	4.60	3.15E-20	0.	0.	5.63E-20	1.89E-19	0.	0.	0.	0.	2.82E-13	6.93E-10	3.69E-09	2.54E-09	6.92E-09
63	4.50	3.29E-20	0.	0.	5.11E-20	1.41E-19	0.	0.	0.	0.	2.84E-13	7.40E-10	3.88E-09	2.60E-09	7.22E-09
64	4.40	3.48E-20	0.	0.	5.11E-20	9.80E-20	0.	0.	0.	0.	2.86E-13	7.92E-10	4.06E-09	2.67E-09	7.52E-09
65	4.30	3.27E-20	0.	0.	4.85E-20	6.08E-20	0.	0.	0.	0.	2.89E-13	8.50E-10	4.26E-09	2.69E-09	7.80E-09
66	4.20	3.04E-20	0.	0.	5.09E-20	4.34E-20	0.	0.	0.	0.	2.91E-13	9.12E-10	4.47E-09	2.72E-09	8.10E-09
67	4.10	2.84E-20	0.	0.	4.95E-20	1.19E-20	0.	0.	0.	0.	2.92E-13	9.82E-10	4.72E-09	2.80E-09	8.42E-09
68	4.00	2.60E-20	0.	0.	4.75E-20	9.04E-21	0.	0.	0.	0.	2.93E-13	1.06E-09	5.01E-09	2.88E-09	8.76E-09
69	3.90	2.20E-20	0.	0.	4.34E-20	3.50E-21	0.	0.	0.	0.	2.92E-13	1.14E-09	5.36E-09	2.97E-09	9.09E-09
70	3.80	2.40E-20	0.	0.	1.14E-18	4.37E-15	0.	0.	0.	0.	2.91E-13	1.24E-09	5.84E-09	3.07E-09	9.41E-09
71	3.70	2.11E-20	0.	0.	1.22E-18	1.69E-15	0.	0.	0.	0.	2.88E-13	1.34E-09	6.37E-09	3.17E-09	9.74E-09
72	3.60	1.90E-20	0.	0.	8.29E-19	9.31E-15	0.	0.	0.	0.	2.68E-13	1.46E-09	6.96E-09	3.28E-09	1.01E-08
73	3.50	1.76E-20	0.	0.	1.12E-18	1.91E-14	0.	0.	0.	0.	2.46E-13	1.59E-09	7.61E-09	3.39E-09	1.05E-08
74	3.40	1.60E-20	0.	0.	6.89E-19	2.60E-15	0.	0.	0.	0.	1.42E-13	1.73E-09	8.32E-09	3.50E-09	1.09E-08
75	3.30	1.28E-20	0.	0.	7.09E-19	1.06E-14	0.	0.	0.	0.	1.42E-13	1.89E-09	9.06E-09	3.61E-09	1.13E-08
76	3.20	1.10E-20	0.	0.	4.58E-19	1.88E-14	0.	0.	0.	0.	1.42E-13	2.08E-09	9.81E-09	3.72E-09	1.17E-08
77	3.10	1.05E-20	0.	0.	3.54E-19	4.10E-15	0.	0.	0.	0.	1.42E-13	2.29E-09	1.06E-08	3.83E-09	1.21E-08
78	3.00	9.36E-21	0.	0.	2.15E-19	1.02E-14	0.	0.	0.	0.	1.43E-13	2.53E-09	1.14E-08	3.94E-09	1.25E-08
79	2.90	7.81E-21	0.	0.	1.33E-19	5.72E-15	0.	0.	0.	0.	1.43E-13	2.80E-09	1.22E-08	4.05E-09	1.29E-08
80	2.80	8.09E-21	0.	0.	6.42E-20	3.43E-15	0.	0.	0.	0.	1.43E-13	3.12E-09	1.30E-08	4.16E-09	1.33E-08
81	2.70	5.16E-21	0.	0.	2.99E-20	4.86E-15	0.	0.	0.	0.	1.43E-13	3.48E-09	1.38E-08	4.27E-09	1.37E-08
82	2.60	2.40E-21	0.	0.	1.47E-20	4.81E-16	0.	0.	0.	0.	1.43E-13	3.90E-09	1.46E-08	4.38E-09	1.41E-08
83	2.50	1.67E-22	0.	0.	1.61E-21	4.55E-16	0.	0.	0.	0.	1.43E-13	4.40E-09	1.54E-08	4.49E-09	1.45E-08
84	2.40	0.	0.	0.	7.62E-20	0.	0.	0.	0.	0.	1.43E-13	4.98E-09	1.62E-08	4.60E-09	1.49E-08
85	2.30	0.	0.	0.	2.47E-19	0.	0.	0.	0.	0.	1.42E-13	5.67E-09	1.70E-08	4.71E-09	1.53E-08
86	2.20	0.	0.	0.	6.27E-19	0.	0.	0.	0.	0.	1.41E-13	6.49E-09	1.78E-08	4.82E-09	1.57E-08
87	2.10	0.	0.	0.	6.86E-19	0.	0.	0.	0.	0.	1.41E-13	7.48E-09	1.86E-08	4.93E-09	1.61E-08
88	2.00	0.	0.	0.	1.32E-18	0.	0.	0.	0.	0.	1.36E-13	8.68E-09	1.94E-08	5.04E-09	1.65E-08
89	1.90	0.	0.	0.	1.77E-18	0.	0.	0.	0.	0.	1.31E-13	1.01E-08	2.02E-08	5.15E-09	1.69E-08
90	1.80	0.	0.	0.	1.48E-18	0.	0.	0.	0.	0.	1.25E-13	1.20E-08	2.10E-08	5.26E-09	1.73E-08
91	1.70	0.	0.	0.	1.72E-18	0.	0.	0.	0.	0.	1.18E-13	1.42E-08	2.18E-08	5.37E-09	1.77E-08
92	1.60	0.	0.	0.	1.27E-18	0.	0.	0.	0.	0.	1.00E-13	1.71E-08	2.26E-08	5.48E-09	1.81E-08
93	1.50	0.	0.	0.	1.48E-18	0.	0.	0.	0.	0.	4.55E-14	2.08E-08	2.34E-08	5.59E-09	1.85E-08
94	1.40	0.	0.	0.	1.48E-18	0.	0.	0.	0.	0.	0.	2.57E-08	2.42E-08	5.70E-09	1.89E-08
95	1.30	0.	0.	0.	1.13E-18	0.	0.	0.	0.	0.	0.	3.24E-08	2.80E-08	5.81E-09	1.93E-08
96	1.20	0.	0.	0.	1.08E-18	0.	0.	0.	0.	0.	0.	4.16E-08	3.22E-08	5.92E-09	1.97E-08
97	1.10	0.	0.	0.	1.01E-18	0.	0.	0.	0.	0.	0.	5.43E-08	3.69E-08	6.03E-09	2.01E-08
98	1.00	0.	0.	0.	9.29E-19	0.	0.	0.	0.	0.	0.	7.25E-08	4.21E-08	6.14E-09	2.05E-08
99	0.90	0.	0.	0.	7.64E-19	0.	0.	0.	0.	0.	0.	9.97E-08	4.78E-08	6.25E-09	2.09E-08
100	0.80	0.	0.	0.	3.59E-19	0.	0.	0.	0.	0.	0.	1.43E-07	5.35E-08	6.36E-09	2.13E-08
101	0.70	0.	0.	0.	8.60E-20	0.	0.	0.	0.	0.	0.	2.16E-07	5.92E-08	6.47E-09	2.17E-08
102	0.60	0.	0.	0.	1.38E-20	0.	0.	0.	0.	0.	0.	3.48E-07	6.50E-08	6.58E-09	2.21E-08

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 16000. DENSITY (GM/CC) 1.293E-09 (1.0E-06 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 8-H NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	N P.E.	0 P.E.	TOTAL AIR	
1 10.70 0.	0.	0.	6.30E-22	0.	0.	0.	2.63E-16	6.16E-13	1.09E-10	2.13E-11	1.31E-10
2 10.60 0.	0.	0.	5.69E-22	0.	0.	0.	2.63E-16	6.34E-13	1.10E-10	2.12E-11	1.32E-10
3 10.50 0.	0.	0.	5.72E-22	0.	0.	0.	2.64E-16	6.52E-13	1.10E-10	2.12E-11	1.32E-10
4 10.40 0.	0.	0.	5.39E-22	0.	0.	0.	2.64E-16	6.71E-13	1.11E-10	2.11E-11	1.32E-10
5 10.30 0.	0.	0.	4.67E-22	0.	0.	0.	2.64E-16	6.91E-13	1.11E-10	2.10E-11	1.33E-10
6 10.20 0.	0.	0.	4.79E-22	0.	0.	0.	2.65E-16	7.12E-13	1.12E-10	2.10E-11	1.34E-10
7 10.10 0.	0.	0.	4.49E-22	0.	0.	0.	2.65E-16	7.33E-13	1.13E-10	2.09E-11	1.34E-10
8 10.00 0.	0.	0.	3.90E-22	0.	0.	0.	2.65E-16	7.55E-13	1.13E-10	2.08E-11	1.35E-10
9 9.90 0.	0.	0.	4.00E-22	0.	0.	0.	2.66E-16	7.79E-13	1.14E-10	2.08E-11	1.36E-10
10 9.80 0.	0.	0.	3.73E-22	0.	0.	0.	2.66E-16	8.03E-13	1.15E-10	2.07E-11	1.36E-10
11 9.70 0.	0.	0.	3.19E-22	0.	0.	0.	2.67E-16	8.28E-13	1.16E-10	2.06E-11	1.37E-10
12 9.60 0.	0.	0.	3.45E-22	0.	0.	0.	2.67E-16	8.54E-13	1.16E-10	2.06E-11	1.38E-10
13 9.50 0.	0.	0.	2.92E-22	0.	0.	0.	2.68E-16	8.81E-13	1.17E-10	2.05E-11	1.38E-10
14 9.40 0.	0.	0.	2.74E-22	0.	0.	0.	2.69E-16	9.10E-13	7.87E-11	2.04E-11	1.00E-10
15 9.30 0.	0.	0.	2.80E-22	0.	0.	0.	2.70E-16	9.40E-13	7.92E-11	2.04E-11	1.01E-10
16 9.20 0.	0.	0.	2.29E-22	0.	0.	0.	2.71E-16	9.71E-13	7.98E-11	2.03E-11	1.01E-10
17 9.10 0.	0.	0.	2.35E-22	0.	0.	0.	2.72E-16	1.00E-12	8.03E-11	2.02E-11	1.02E-10
18 9.00 0.	0.	0.	2.13E-22	0.	0.	0.	2.73E-16	1.04E-12	8.08E-11	1.97E-11	1.02E-10
19 8.90 0.	0.	0.	1.95E-22	0.	0.	0.	2.74E-16	1.07E-12	8.14E-11	1.96E-11	1.02E-10
20 8.80 0.	0.	0.	1.91E-22	0.	0.	0.	2.75E-16	1.11E-12	8.19E-11	1.95E-11	1.03E-10
21 8.70 0.	0.	0.	1.64E-22	0.	0.	0.	2.76E-16	1.15E-12	8.25E-11	1.95E-11	1.03E-10
22 8.60 0.	0.	0.	1.69E-22	0.	0.	0.	2.77E-16	1.19E-12	8.30E-11	1.94E-11	1.04E-10
23 8.50 0.	0.	0.	1.46E-22	0.	0.	0.	2.78E-16	1.23E-12	8.35E-11	1.94E-11	1.04E-10
24 8.40 0.	0.	0.	1.45E-22	0.	0.	0.	2.79E-16	1.28E-12	8.40E-11	1.93E-11	1.04E-10
25 8.30 0.	0.	0.	1.22E-22	0.	0.	0.	2.81E-16	1.32E-12	8.46E-11	1.93E-11	1.04E-10
26 8.20 0.	0.	0.	1.23E-22	0.	0.	0.	2.82E-16	1.38E-12	8.52E-11	1.94E-11	1.04E-10
27 8.10 0.	0.	0.	1.05E-22	0.	0.	0.	2.84E-16	1.43E-12	8.57E-11	1.95E-11	1.04E-10
28 8.00 0.	0.	0.	1.05E-22	0.	0.	0.	2.85E-16	1.48E-12	8.62E-11	1.96E-11	1.04E-10
29 7.90 0.	0.	0.	8.99E-23	0.	0.	0.	2.86E-16	1.54E-12	8.67E-11	1.96E-11	1.04E-10
30 7.80 0.	0.	0.	9.28E-23	0.	0.	0.	2.88E-16	1.60E-12	8.72E-11	1.97E-11	1.04E-10
31 7.70 0.	0.	0.	8.08E-23	0.	0.	0.	2.89E-16	1.66E-12	8.77E-11	1.98E-11	1.04E-10
32 7.60 0.	0.	0.	7.63E-23	0.	5.79E-27	0.	2.91E-16	1.73E-12	8.82E-11	1.99E-11	1.04E-10
33 7.50 0.	0.	0.	7.01E-23	0.	2.11E-26	0.	2.92E-16	1.80E-12	8.87E-11	2.00E-11	1.04E-10
34 7.40 0.	0.	0.	6.26E-23	0.	1.62E-25	0.	2.94E-16	1.87E-12	8.92E-11	2.00E-11	1.04E-10
35 7.30 0.	0.	0.	5.89E-23	0.	6.71E-25	0.	2.96E-16	1.95E-12	8.97E-11	2.01E-11	1.04E-10
36 7.20 0.	0.	0.	5.28E-23	0.	1.81E-24	0.	2.97E-16	2.03E-12	9.02E-11	2.02E-11	1.04E-10
37 7.10 0.	0.	0.	5.04E-23	0.	5.55E-24	0.	3.00E-16	2.12E-12	9.07E-11	2.03E-11	1.04E-10
38 7.00 0.	0.	0.	4.59E-23	0.	1.16E-23	0.	3.02E-16	2.22E-12	9.12E-11	2.04E-11	1.04E-10
39 6.90 0.	0.	0.	4.18E-23	0.	1.52E-23	0.	3.04E-16	2.31E-12	9.17E-11	2.05E-11	1.04E-10
40 6.80 0.	0.	0.	4.00E-23	0.	2.75E-23	0.	3.07E-16	2.42E-12	9.22E-11	2.06E-11	1.04E-10
41 6.70 0.	0.	0.	3.47E-23	0.	2.82E-23	0.	3.09E-16	2.53E-12	9.27E-11	2.07E-11	1.04E-10
42 6.60 0.	0.	0.	3.09E-23	0.	2.19E-23	0.	3.12E-16	2.65E-12	9.32E-11	2.08E-11	1.04E-10
43 6.50 0.	0.	0.	2.44E-23	0.	3.35E-23	0.	3.14E-16	2.77E-12	9.37E-11	2.10E-11	1.04E-10
44 6.40 0.	0.	0.	1.66E-23	0.	1.26E-25	0.	3.17E-16	2.90E-12	9.42E-11	2.11E-11	1.04E-10
45 6.30 0.	0.	0.	1.02E-23	0.	5.85E-25	0.	3.19E-16	3.05E-12	9.47E-11	2.13E-11	1.04E-10
46 6.20 0.	0.	0.	5.60E-24	0.	8.23E-25	0.	3.22E-16	3.20E-12	9.52E-11	2.15E-11	1.04E-10
47 6.10 0.	0.	0.	2.60E-24	0.	2.34E-24	0.	3.24E-16	3.36E-12	9.57E-11	2.17E-11	1.04E-10
48 6.00 0.	0.	0.	6.55E-25	0.	2.20E-24	0.	3.26E-16	3.53E-12	9.62E-11	2.19E-11	1.04E-10
49 5.90 0.	0.	0.	4.69E-26	0.	3.21E-24	0.	3.26E-16	3.71E-12	9.67E-11	2.21E-11	1.04E-10
50 5.80 0.	0.	0.	1.18E-27	0.	4.47E-24	0.	3.22E-16	3.91E-12	9.72E-11	2.23E-11	1.04E-10
51 5.70 0.	0.	0.	0.	0.	5.18E-24	0.	3.02E-16	4.12E-12	9.77E-11	2.25E-11	1.04E-10



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 16000. DENSITY (GM/CC) 1.293E-09 (1.0E-06 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NU BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52 5.60 3.0E-32	0.	0.	0.	4.34E-24	2.82E-23	0.	0.	2.81E-16	4.35E-12	3.97E-11	2.21E-11	6.61E-11
53 5.50 0.	0.	0.	0.	5.30E-24	2.62E-23	0.	0.	2.82E-16	4.59E-12	4.11E-11	2.23E-11	6.80E-11
54 5.40 0.	0.	0.	0.	4.82E-24	2.08E-23	0.	0.	2.84E-16	4.85E-12	4.26E-11	2.26E-11	7.01E-11
55 5.30 0.	0.	0.	0.	4.94E-24	2.67E-23	0.	0.	2.86E-16	5.13E-12	4.42E-11	2.29E-11	7.22E-11
56 5.20 0.	0.	0.	0.	5.29E-24	1.95E-23	0.	0.	2.87E-16	5.44E-12	4.58E-11	2.33E-11	7.45E-11
57 5.10 0.	0.	0.	0.	5.27E-24	2.52E-23	0.	0.	2.90E-16	5.76E-12	4.75E-11	2.37E-11	7.70E-11
58 5.00 4.14E-25	0.	0.	0.	4.79E-24	2.34E-23	0.	0.	2.92E-16	6.12E-12	4.93E-11	2.42E-11	7.96E-11
59 4.90 9.90E-25	0.	0.	0.	5.32E-24	2.52E-23	0.	0.	2.95E-16	6.50E-12	5.12E-11	2.46E-11	8.23E-11
60 4.80 1.85E-24	0.	0.	0.	5.69E-24	2.36E-23	0.	0.	2.97E-16	6.92E-12	5.32E-11	2.52E-11	8.52E-11
61 4.70 2.47E-24	0.	0.	0.	5.65E-24	2.13E-23	0.	0.	3.00E-16	7.38E-12	5.56E-11	2.58E-11	8.84E-11
62 4.60 3.37E-24	0.	0.	0.	5.79E-24	1.94E-23	0.	0.	3.02E-16	7.87E-12	5.87E-11	2.65E-11	9.31E-11
63 4.50 3.52E-24	0.	3.36E-24	0.	5.26E-24	1.45E-23	0.	0.	3.04E-16	8.41E-12	6.22E-11	2.72E-11	9.78E-11
64 4.40 3.73E-24	0.	1.03E-23	0.	5.26E-24	1.01E-23	0.	0.	3.07E-16	9.01E-12	6.56E-11	2.74E-11	1.02E-10
65 4.30 3.51E-24	0.	3.25E-23	0.	4.98E-24	6.25E-24	0.	0.	3.09E-16	9.66E-12	6.92E-11	2.79E-11	1.04E-10
66 4.20 3.25E-24	0.	1.07E-22	0.	5.24E-24	4.47E-24	0.	0.	3.12E-16	1.04E-11	7.31E-11	1.05E-11	9.40E-11
67 4.10 3.04E-24	0.	4.44E-23	0.	5.09E-24	1.23E-24	0.	0.	3.13E-16	1.12E-11	7.27E-11	1.09E-11	9.47E-11
68 4.00 2.79E-24	0.	1.54E-22	0.	4.89E-24	9.30E-25	0.	0.	3.14E-16	1.20E-11	6.74E-11	1.13E-11	9.07E-11
69 3.90 2.35E-24	0.	7.12E-23	9.16E-19	4.47E-24	3.60E-25	0.	0.	3.13E-16	1.30E-11	7.09E-11	1.16E-11	9.56E-11
70 3.80 2.57E-24	0.	1.12E-22	4.17E-18	4.79E-24	0.	0.	0.	3.12E-16	1.40E-11	7.23E-11	1.21E-11	9.85E-11
71 3.70 2.26E-24	0.	1.21E-22	1.61E-18	4.04E-24	0.	0.	0.	3.07E-16	1.52E-11	7.60E-11	1.33E-11	1.05E-10
72 3.60 2.03E-24	0.	8.19E-23	8.88E-18	4.37E-24	0.	0.	0.	2.87E-16	1.65E-11	4.63E-11	1.46E-11	7.74E-11
73 3.50 1.84E-24	0.	1.10E-22	1.83E-17	3.41E-24	0.	0.	0.	2.63E-16	1.80E-11	5.05E-11	1.61E-11	8.46E-11
74 3.40 1.7E-24	0.	6.80E-23	2.48E-18	3.82E-24	0.	0.	0.	1.52E-16	1.97E-11	5.60E-11	1.78E-11	9.34E-11
75 3.30 1.37E-24	0.	7.00E-23	1.01E-17	3.02E-24	0.	0.	0.	1.52E-16	2.15E-11	6.16E-11	1.92E-11	1.02E-10
76 3.20 1.14E-24	0.	4.52E-23	1.79E-17	3.16E-24	0.	0.	0.	1.52E-16	2.36E-11	6.81E-11	2.09E-11	1.13E-10
77 3.10 1.13E-24	0.	3.49E-23	3.92E-18	2.97E-24	0.	0.	0.	1.53E-16	2.60E-11	7.50E-11	2.26E-11	1.24E-10
78 3.00 1.01E-24	0.	2.12E-23	9.72E-18	2.78E-24	0.	0.	0.	1.53E-16	2.87E-11	8.20E-11	2.44E-11	1.35E-10
79 2.90 8.36E-25	0.	1.32E-23	5.45E-18	2.09E-24	0.	0.	0.	1.53E-16	3.18E-11	8.92E-11	2.63E-11	1.47E-10
80 2.80 6.67E-25	0.	6.34E-24	3.27E-18	1.43E-24	0.	0.	0.	1.53E-16	3.54E-11	9.72E-11	2.50E-11	1.58E-10
81 2.70 5.52E-25	0.	2.96E-24	4.63E-18	7.70E-25	0.	0.	0.	1.53E-16	3.95E-11	1.05E-10	1.46E-11	1.59E-10
82 2.60 2.57E-25	0.	1.45E-24	4.59E-19	3.35E-25	0.	0.	0.	1.53E-16	4.43E-11	8.12E-11	1.59E-11	1.42E-10
83 2.50 1.79E-26	0.	1.59E-25	4.34E-19	7.91E-26	0.	0.	0.	1.53E-16	5.00E-11	9.39E-11	1.85E-11	1.62E-10
84 2.40 0.	7.53E-24	0.	3.65E-19	8.38E-27	0.	0.	0.	1.53E-16	5.66E-11	1.13E-10	2.25E-11	1.92E-10
85 2.30 0.	2.44E-23	0.	0.	0.	0.	0.	0.	1.52E-16	6.44E-11	1.33E-10	2.69E-11	2.25E-10
86 2.20 0.	6.19E-23	0.	0.	0.	0.	0.	0.	1.52E-16	7.37E-11	1.55E-10	3.22E-11	2.61E-10
87 2.10 0.	6.78E-23	0.	0.	0.	0.	0.	0.	1.51E-16	8.49E-11	1.49E-10	3.71E-11	2.71E-10
88 2.00 0.	1.30E-22	0.	0.	0.	0.	0.	0.	1.46E-16	9.85E-11	1.71E-10	4.24E-11	3.11E-10
89 1.90 0.	1.75E-22	0.	0.	0.	0.	0.	0.	1.41E-16	1.15E-10	1.94E-10	4.89E-11	3.58E-10
90 1.80 0.	1.47E-22	0.	0.	0.	0.	0.	0.	1.34E-16	1.36E-10	2.30E-10	5.91E-11	4.25E-10
91 1.70 0.	1.70E-22	0.	0.	0.	0.	0.	0.	1.27E-16	1.62E-10	2.74E-10	6.80E-11	5.04E-10
92 1.60 0.	1.26E-22	0.	0.	0.	0.	0.	0.	1.07E-16	1.94E-10	2.97E-10	8.06E-11	5.72E-10
93 1.50 0.	1.46E-22	0.	0.	0.	0.	0.	0.	4.87E-17	2.36E-10	2.72E-10	9.20E-11	6.00E-10
94 1.40 0.	1.46E-22	0.	0.	0.	0.	0.	0.	0.	2.92E-10	3.53E-10	8.35E-11	7.28E-10
95 1.30 0.	1.12E-22	0.	0.	0.	0.	0.	0.	0.	3.68E-10	4.66E-10	1.19E-10	9.53E-10
96 1.20 0.	1.07E-22	0.	0.	0.	0.	0.	0.	0.	4.71E-10	6.36E-10	1.48E-10	1.26E-09
97 1.10 0.	1.00E-22	0.	0.	0.	0.	0.	0.	0.	6.15E-10	7.82E-10	1.88E-10	1.59E-09
98 1.00 0.	9.18E-23	0.	0.	0.	0.	0.	0.	0.	8.22E-10	9.49E-10	2.28E-10	2.00E-09
99 0.90 0.	7.55E-23	0.	0.	0.	0.	0.	0.	0.	1.13E-09	1.07E-09	2.49E-10	2.45E-09
100 0.80 0.	3.55E-23	0.	0.	0.	0.	0.	0.	0.	1.62E-09	1.00E-09	2.15E-10	2.84E-09
101 0.70 0.	8.50E-24	0.	0.	0.	0.	0.	0.	0.	2.45E-09	1.15E-09	2.47E-10	3.84E-09
102 0.60 0.	1.36E-24	0.	0.	0.	0.	0.	0.	0.	3.94E-09	1.24E-09	2.80E-10	5.51E-09





# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	Q2 S-R BANDS	Q2 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IUNS)	FREE-FREE N P.E.	O P.E.	TOTAL AIR	
1 10.70 0.	0.	0.	1.90E-02	0.	0.	0.	9.94E-02	6.54E-03	2.51E 01	1.35E-01	2.54E 01
2 10.60 0.	0.	0.	1.73E-02	0.	0.	0.	9.96E-02	6.73E-03	6.17E-01	1.34E-01	8.74E-01
3 10.50 0.	0.	0.	1.74E-02	0.	0.	0.	9.97E-02	6.92E-03	6.19E-01	1.34E-01	8.77E-01
4 10.40 0.	0.	0.	1.65E-02	0.	0.	0.	9.98E-02	7.12E-03	6.22E-01	1.33E-01	8.78E-01
5 10.30 0.	0.	0.	1.43E-02	0.	0.	0.	10.00E-02	7.33E-03	6.23E-01	1.33E-01	8.77E-01
6 10.20 0.	0.	0.	1.48E-02	0.	0.	0.	1.00E-01	7.55E-03	6.25E-01	1.32E-01	8.79E-01
7 10.10 0.	0.	0.	1.39E-02	0.	0.	0.	1.00E-01	7.78E-03	6.25E-01	1.32E-01	8.78E-01
8 10.00 0.	0.	0.	1.21E-02	0.	0.	0.	1.00E-01	8.02E-03	6.26E-01	1.31E-01	8.78E-01
9 9.90 0.	0.	0.	1.25E-02	0.	0.	0.	1.00E-01	8.26E-03	6.28E-01	1.31E-01	8.79E-01
10 9.80 0.	0.	0.	1.17E-02	0.	0.	0.	1.01E-01	8.52E-03	6.29E-01	1.30E-01	8.80E-01
11 9.70 0.	0.	0.	1.01E-02	0.	0.	0.	1.01E-01	8.79E-03	6.31E-01	1.30E-01	8.80E-01
12 9.60 0.	0.	0.	1.09E-02	0.	0.	0.	1.01E-01	9.06E-03	6.32E-01	1.29E-01	8.82E-01
13 9.50 0.	0.	0.	9.26E-03	0.	0.	0.	1.01E-01	9.36E-03	6.34E-01	1.29E-01	8.83E-01
14 9.40 0.	0.	0.	8.74E-03	0.	0.	0.	1.02E-01	9.66E-03	6.36E-01	1.28E-01	8.84E-01
15 9.30 0.	0.	0.	8.94E-03	0.	0.	0.	1.02E-01	9.98E-03	6.38E-01	1.28E-01	8.86E-01
16 9.20 0.	0.	0.	7.38E-03	0.	0.	0.	1.02E-01	1.03E-02	6.40E-01	1.27E-01	8.87E-01
17 9.10 0.	0.	0.	7.54E-03	0.	0.	0.	1.03E-01	1.07E-02	2.27E-01	1.27E-01	4.75E-01
18 9.00 0.	0.	0.	6.88E-03	0.	0.	0.	1.03E-01	1.10E-02	2.28E-01	1.26E-01	4.75E-01
19 8.90 0.	0.	0.	6.35E-03	0.	0.	0.	1.03E-01	1.14E-02	2.28E-01	1.26E-01	4.75E-01
20 8.80 0.	0.	0.	6.23E-03	0.	0.	0.	1.04E-01	1.18E-02	2.28E-01	1.25E-01	4.75E-01
21 8.70 0.	0.	0.	5.39E-03	0.	0.	0.	1.04E-01	1.22E-02	2.28E-01	1.25E-01	4.75E-01
22 8.60 0.	0.	0.	5.55E-03	0.	0.	0.	1.05E-01	1.26E-02	2.28E-01	1.24E-01	4.76E-01
23 8.50 0.	0.	0.	4.85E-03	0.	0.	0.	1.05E-01	1.31E-02	2.29E-01	1.24E-01	4.76E-01
24 8.40 0.	0.	0.	4.81E-03	0.	0.	0.	1.05E-01	1.36E-02	2.30E-01	1.24E-01	4.77E-01
25 8.30 0.	0.	0.	4.07E-03	0.	0.	0.	1.06E-01	1.41E-02	2.30E-01	1.23E-01	4.78E-01
26 8.20 0.	0.	0.	4.11E-03	0.	0.	0.	1.07E-01	1.46E-02	2.31E-01	1.24E-01	4.80E-01
27 8.10 0.	0.	0.	3.54E-03	0.	0.	0.	1.07E-01	1.52E-02	2.31E-01	1.24E-01	4.81E-01
28 8.00 0.	0.	0.	3.56E-03	0.	0.	0.	1.08E-01	1.57E-02	2.32E-01	1.24E-01	4.84E-01
29 7.90 0.	0.	0.	3.05E-03	0.	0.	0.	1.08E-01	1.63E-02	2.34E-01	1.25E-01	4.86E-01
30 7.80 0.	0.	0.	3.16E-03	0.	0.	0.	1.09E-01	1.70E-02	2.35E-01	1.25E-01	4.89E-01
31 7.70 0.	0.	0.	2.77E-03	0.	0.	0.	1.09E-01	1.77E-02	2.36E-01	1.25E-01	4.91E-01
32 7.60 0.	0.	0.	2.62E-03	0.	1.17E-07	0.	1.10E-01	1.84E-02	2.38E-01	1.26E-01	4.94E-01
33 7.50 0.	0.	0.	2.42E-03	0.	4.11E-07	0.	1.10E-01	1.91E-02	2.39E-01	1.26E-01	4.97E-01
34 7.40 0.	0.	0.	2.17E-03	0.	3.29E-06	0.	1.11E-01	1.99E-02	2.40E-01	1.26E-01	5.00E-01
35 7.30 0.	0.	0.	2.05E-03	0.	1.33E-05	0.	1.12E-01	2.08E-02	2.42E-01	1.26E-01	5.03E-01
36 7.20 0.	0.	0.	1.85E-03	0.	3.63E-05	0.	1.12E-01	2.16E-02	2.43E-01	1.27E-01	5.06E-01
37 7.10 0.	0.	0.	1.77E-03	0.	1.12E-04	0.	1.13E-01	2.26E-02	2.44E-01	1.27E-01	5.09E-01
38 7.00 3.16E-07	0.	0.	1.62E-03	0.	3.09E-04	0.	1.14E-01	2.36E-02	2.46E-01	1.27E-01	5.13E-01
39 6.90 6.1E-07	0.	0.	1.49E-03	0.	2.09E-04	0.	1.15E-01	2.46E-02	2.47E-01	1.28E-01	5.16E-01
40 6.80 5.3E-07	0.	0.	1.43E-03	0.	5.46E-04	0.	1.16E-01	2.57E-02	2.48E-01	1.28E-01	5.20E-01
41 6.70 3.85E-07	0.	0.	1.25E-03	0.	5.51E-04	0.	1.17E-01	2.69E-02	2.50E-01	1.28E-01	5.24E-01
42 6.60 2.34E-07	0.	0.	1.12E-03	0.	4.41E-04	0.	1.18E-01	2.82E-02	2.52E-01	1.29E-01	5.28E-01
43 6.50 1.35E-07	0.	0.	8.86E-04	0.	6.61E-04	0.	1.19E-01	2.95E-02	2.54E-01	1.29E-01	5.34E-01
44 6.40 7.71E-08	0.	0.	6.10E-04	0.	6.34E-04	0.	1.20E-01	3.09E-02	2.57E-01	1.30E-01	5.39E-01
45 6.30 4.40E-08	0.	0.	3.79E-04	2.36E-06	6.34E-04	0.	1.21E-01	3.24E-02	2.59E-01	1.31E-01	5.44E-01
46 6.20 2.01E-08	0.	0.	2.09E-04	1.57E-05	4.39E-04	0.	1.21E-01	3.40E-02	2.62E-01	1.32E-01	5.50E-01
47 6.10 9.21E-09	0.	0.	9.77E-05	4.47E-05	7.67E-04	0.	1.22E-01	3.57E-02	2.65E-01	1.33E-01	5.57E-01
48 6.00 3.83E-09	0.	0.	2.48E-05	4.25E-05	3.69E-04	0.	1.23E-01	3.76E-02	2.68E-01	1.35E-01	5.64E-01
49 5.90 9.43E-10	0.	0.	1.77E-06	6.22E-05	3.62E-04	0.	1.23E-01	3.95E-02	2.72E-01	1.36E-01	5.72E-01
50 5.80 1.21E-10	0.	0.	4.46E-08	8.68E-05	3.71E-04	0.	1.21E-01	4.16E-02	2.76E-01	1.37E-01	5.77E-01
51 5.70 8.81E-12	0.	0.	0.	1.01E-04	4.14E-04	0.	1.14E-01	4.38E-02	2.80E-01	1.39E-01	5.77E-01

## ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

[illegible]

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1700C.	DENSITY (GM/CC)		1.293E-04 (1.0E-01 NORMAL)		O- PHOTO-DET (IONS)		N P.E.		O P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	U2 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	NO 2	NO 2	NO 2	NO 2	NO 2	NO 2	NO 2	NO 2	NO 2
1 10.70 0.	0.	1.11E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.	0.	1.00E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.	0.	1.01E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.	0.	9.58E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.	0.	8.34E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.	0.	8.59E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.	0.	8.08E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.	0.	7.06E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	0.	7.24E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	0.	6.79E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	0.	5.85E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	0.	6.32E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	0.	5.38E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	0.	5.08E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	0.	5.20E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	0.	4.30E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	0.	4.41E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	0.	4.00E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	0.	3.69E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	0.	3.62E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	0.	3.13E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	0.	3.23E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	0.	2.82E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	0.	2.80E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	0.	2.37E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	0.	2.39E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	0.	2.06E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	0.	2.07E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	0.	1.78E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	0.	1.84E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	0.	1.61E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.	0.	1.53E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	0.	1.41E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	0.	1.26E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	0.	1.20E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	0.	1.08E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	0.	1.03E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.	0.	9.45E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.	0.	8.65E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.	0.	8.31E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.	0.	7.25E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.	0.	6.49E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.	0.	5.15E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.	0.	3.55E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.	0.	2.20E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.	0.	1.22E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.	0.	5.68E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.	0.	1.44E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.	0.	1.03E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.	0.	2.60E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.	0.	6.17E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

O- PHOTO-DET (IONS)	FREE-FREE	N
		P.E.
2.46E-03	3.56E-03	2.17E-02
2.48E-03	3.76E-03	2.22E-02
2.49E-03	3.97E-03	2.27E-02
2.51E-03	4.20E-03	2.33E-02
2.52E-03	4.45E-03	2.39E-02
2.54E-03	4.72E-03	2.46E-02
2.56E-03	5.01E-03	2.54E-02
2.59E-03	5.33E-03	2.62E-02
2.61E-03	5.67E-03	2.71E-02
2.63E-03	6.05E-03	2.81E-02
2.65E-03	6.46E-03	2.92E-02
2.67E-03	6.90E-03	3.06E-02
2.69E-03	7.39E-03	3.21E-02
2.71E-03	7.92E-03	3.37E-02
2.74E-03	8.51E-03	3.53E-02
2.75E-03	9.15E-03	3.69E-02
2.76E-03	9.86E-03	3.85E-02
2.75E-03	1.06E-02	3.72E-02
2.74E-03	1.15E-02	3.78E-02
2.69E-03	1.25E-02	3.09E-02
2.52E-03	1.36E-02	3.34E-02
2.31E-03	1.48E-02	3.52E-02
1.13E-03	1.61E-02	3.93E-02
1.33E-03	1.77E-02	4.34E-02
1.34E-03	1.94E-02	4.75E-02
1.34E-03	2.13E-02	5.18E-02
1.34E-03	2.36E-02	5.61E-02
1.34E-03	2.61E-02	6.06E-02
1.35E-03	2.91E-02	6.58E-02
1.35E-03	3.25E-02	7.15E-02
1.35E-03	3.65E-02	7.76E-02
1.35E-03	4.11E-02	8.84E-02
1.35E-03	4.65E-02	1.03E-01
1.34E-03	5.30E-02	8.70E-02
1.33E-03	6.06E-02	1.03E-01
1.32E-03	6.99E-02	1.20E-01
1.28E-03	8.11E-02	1.37E-01
1.23E-03	9.49E-02	1.56E-01
1.18E-03	1.12E-01	1.87E-01
1.11E-03	1.33E-01	2.24E-01
9.40E-04	1.60E-01	2.62E-01
4.27E-04	1.95E-01	3.38E-01
0.	2.41E-01	4.20E-01
0.	3.04E-01	5.54E-01
0.	3.89E-01	5.99E-01
0.	5.07E-01	7.40E-01
0.	6.77E-01	8.96E-01
0.	9.33E-01	1.03E 00
0.	1.34E 00	1.18E 00
0.	2.03E 00	1.29E 00
0.	3.27E 00	1.44E 00

TEMPERATURE (DEGREES N)	DENSITY (GM/CC)	ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)
17000.	1.291E-05	(10.0E-03 NORMAL)

PHOTON ENERGY E.V.	02 S-R CONT.	H2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	U- PHOTO-DEY (IONS)	FREE-FREE (IONS)	N P.E.	D P.E.	TOTAL AIR
1 10.70	0.	2.27E-07	0.	0.	0.	2.72E-05	2.35E-05	8.67E-02	6.15E-04	8.73E-02
2 10.60	0.	2.06E-07	0.	0.	0.	2.73E-05	2.42E-05	2.13E-03	6.12E-04	2.80E-03
3 10.50	0.	2.08E-07	0.	0.	0.	2.73E-05	2.49E-05	2.14E-03	6.10E-04	2.81E-03
4 10.40	0.	1.97E-07	0.	0.	0.	2.73E-05	2.56E-05	2.15E-03	6.08E-04	2.81E-03
5 10.30	0.	1.71E-07	0.	0.	0.	2.74E-05	2.63E-05	2.16E-03	6.06E-04	2.82E-03
6 10.20	0.	1.76E-07	0.	0.	0.	2.74E-05	2.71E-05	2.16E-03	6.03E-04	2.82E-03
7 10.10	0.	1.66E-07	0.	0.	0.	2.75E-05	2.80E-05	2.16E-03	6.01E-04	2.82E-03
8 10.00	0.	1.45E-07	0.	0.	0.	2.75E-05	2.88E-05	2.16E-03	5.99E-04	2.82E-03
9 9.90	0.	1.49E-07	0.	0.	0.	2.75E-05	2.97E-05	2.17E-03	5.97E-04	2.82E-03
10 9.80	0.	1.39E-07	0.	0.	0.	2.76E-05	3.06E-05	2.17E-03	5.94E-04	2.83E-03
11 9.70	0.	1.20E-07	0.	0.	0.	2.76E-05	3.16E-05	2.18E-03	5.92E-04	2.83E-03
12 9.60	0.	1.30E-07	0.	0.	0.	2.77E-05	3.26E-05	2.18E-03	5.90E-04	2.83E-03
13 9.50	0.	1.10E-07	0.	0.	0.	2.77E-05	3.36E-05	2.19E-03	5.87E-04	2.84E-03
14 9.40	0.	1.04E-07	0.	0.	0.	2.78E-05	3.47E-05	2.20E-03	5.85E-04	2.84E-03
15 9.30	0.	1.07E-07	0.	0.	0.	2.79E-05	3.59E-05	2.20E-03	5.83E-04	2.85E-03
16 9.20	0.	8.81E-08	0.	0.	0.	2.80E-05	3.71E-05	2.21E-03	5.81E-04	2.86E-03
17 9.10	0.	9.05E-08	0.	0.	0.	2.81E-05	3.93E-05	7.87E-04	5.79E-04	1.43E-03
18 9.00	0.	8.21E-08	0.	0.	0.	2.82E-05	3.96E-05	7.87E-04	5.77E-04	1.43E-03
19 8.90	0.	7.58E-08	0.	0.	0.	2.83E-05	4.10E-05	7.87E-04	5.75E-04	1.43E-03
20 8.80	0.	7.44E-08	0.	0.	0.	2.84E-05	4.24E-05	7.88E-04	5.72E-04	1.43E-03
21 8.70	0.	6.43E-08	0.	0.	0.	2.85E-05	4.39E-05	7.89E-04	5.70E-04	1.43E-03
22 8.60	0.	6.62E-08	0.	0.	0.	2.86E-05	4.54E-05	7.90E-04	5.68E-04	1.43E-03
23 8.50	0.	5.79E-08	0.	0.	0.	2.87E-05	4.71E-05	7.92E-04	5.67E-04	1.43E-03
24 8.40	0.	5.74E-08	0.	0.	0.	2.89E-05	4.88E-05	7.94E-04	5.65E-04	1.44E-03
25 8.30	0.	4.86E-08	0.	0.	0.	2.91E-05	5.06E-05	7.96E-04	5.64E-04	1.44E-03
26 8.20	0.	4.91E-08	0.	0.	0.	2.92E-05	5.25E-05	7.99E-04	5.65E-04	1.45E-03
27 8.10	0.	4.23E-08	0.	0.	0.	2.94E-05	5.45E-05	8.00E-04	5.67E-04	1.45E-03
28 8.00	0.	4.25E-08	0.	0.	0.	2.95E-05	5.65E-05	8.04E-04	5.68E-04	1.46E-03
29 7.90	0.	3.65E-08	0.	0.	0.	2.97E-05	5.87E-05	8.09E-04	5.69E-04	1.47E-03
30 7.80	0.	3.78E-08	0.	0.	0.	2.98E-05	6.10E-05	8.13E-04	5.71E-04	1.47E-03
31 7.70	0.	3.31E-08	0.	0.	0.	3.00E-05	6.35E-05	8.18E-04	5.72E-04	1.48E-03
32 7.60	0.	3.13E-08	0.	1.84E-12	0.	3.01E-05	6.60E-05	8.22E-04	5.74E-04	1.49E-03
33 7.50	0.	2.89E-08	0.	6.49E-12	0.	3.03E-05	6.87E-05	8.26E-04	5.75E-04	1.50E-03
34 7.40	0.	2.59E-08	0.	5.19E-11	0.	3.04E-05	7.16E-05	8.31E-04	5.76E-04	1.51E-03
35 7.30	0.	2.45E-08	0.	2.10E-10	0.	3.06E-05	7.46E-05	8.35E-04	5.78E-04	1.52E-03
36 7.20	0.	2.21E-08	0.	5.73E-10	0.	3.08E-05	7.78E-05	8.40E-04	5.79E-04	1.53E-03
37 7.10	0.	2.12E-08	0.	1.77E-09	0.	3.10E-05	8.11E-05	8.45E-04	5.81E-04	1.54E-03
38 7.00	6.60E-12	1.94E-08	0.	3.61E-09	0.	3.13E-05	8.47E-05	8.49E-04	5.82E-04	1.55E-03
39 6.90	1.29E-11	1.77E-08	0.	4.87E-09	0.	3.15E-05	8.85E-05	8.54E-04	5.83E-04	1.56E-03
40 6.80	1.11E-11	1.70E-08	0.	8.2E-09	0.	3.18E-05	9.25E-05	8.59E-04	5.85E-04	1.57E-03
41 6.70	8.04E-12	1.49E-08	0.	8.70E-09	0.	3.20E-05	9.67E-05	8.63E-04	5.87E-04	1.58E-03
42 6.60	4.84E-12	1.33E-08	0.	6.95E-09	0.	3.23E-05	1.01E-04	8.71E-04	5.89E-04	1.59E-03
43 6.50	2.82E-12	1.06E-08	0.	1.04E-08	0.	3.25E-05	1.06E-04	8.79E-04	5.92E-04	1.61E-03
44 6.40	1.61E-12	7.28E-09	3.73E-11	1.00E-08	0.	3.28E-05	1.11E-04	8.88E-04	5.94E-04	1.63E-03
45 6.30	9.31E-13	4.52E-09	1.75E-10	6.94E-09	0.	3.30E-05	1.16E-04	8.97E-04	5.98E-04	1.64E-03
46 6.20	4.19E-13	2.49E-09	2.47E-10	9.60E-09	0.	3.33E-05	1.22E-04	9.06E-04	6.03E-04	1.66E-03
47 6.10	1.92E-13	1.17E-09	7.95E-10	1.21E-08	0.	3.35E-05	1.28E-04	9.16E-04	6.09E-04	1.69E-03
48 6.00	7.94E-14	2.95E-10	6.74E-10	5.83E-09	0.	3.38E-05	1.35E-04	9.28E-04	6.15E-04	1.71E-03
49 5.90	1.96E-14	2.12E-11	9.82E-10	5.71E-09	0.	3.38E-05	1.42E-04	9.42E-04	6.21E-04	1.74E-03
50 5.80	2.56E-15	5.33E-13	1.37E-09	5.85E-09	0.	3.33E-05	1.49E-04	9.55E-04	6.27E-04	1.77E-03
51 5.70	1.84E-16	0.	1.60E-09	6.53E-09	0.	3.13E-05	1.58E-04	9.68E-04	6.33E-04	1.79E-03



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-05 (10.0E-03 NORMAL)					
PHOTON Q2 S-R		N2		N2		N2		N2		N2		N2	
ENERGY BANDS		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2		N2		N2		N2		N2		N2	
		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT	
		N2											

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		17000.	DENSITY (GM/CC)		1.293E-06	(10.0E-04 NORMAL)		FREE-FREE		H		O		TOTAL AIR	
PHOTON U2 S-R		U2 S-R	NO		BETA	NO		GAMMA		NO		2		PHOTO-DET (IONS)	
ENERGY BANDS		CONT.	NO. 1		NO. 2	NO. 3		NO. 4		NO. 5		NO. 6		NO. 7	
E.V.															
1	10.70	0.	8.02E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.25E-08	4.54E-07
2	10.60	0.	7.27E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.26E-08	4.67E-07
3	10.50	0.	7.33E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.27E-08	4.81E-07
4	10.40	0.	6.94E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.29E-08	4.95E-07
5	10.30	0.	6.03E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.30E-08	5.09E-07
6	10.20	0.	5.22E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.31E-08	5.25E-07
7	10.10	0.	5.85E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.32E-08	5.40E-07
8	10.00	0.	5.11E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.33E-08	5.57E-07
9	9.90	0.	5.24E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.34E-08	5.74E-07
10	9.80	0.	4.91E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.36E-08	5.92E-07
11	9.70	0.	4.23E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.37E-08	6.10E-07
12	9.60	0.	4.57E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.39E-08	6.30E-07
13	9.50	0.	3.90E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.41E-08	6.50E-07
14	9.40	0.	3.68E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.44E-08	6.71E-07
15	9.30	0.	3.77E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.47E-08	6.93E-07
16	9.20	0.	3.11E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.50E-08	7.16E-07
17	9.10	0.	3.19E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.53E-08	7.41E-07
18	9.00	0.	2.90E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.56E-08	7.66E-07
19	8.90	0.	2.67E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.59E-08	7.92E-07
20	8.80	0.	2.62E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.62E-08	8.20E-07
21	8.70	0.	2.27E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.65E-08	8.48E-07
22	8.60	0.	2.34E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.68E-08	8.79E-07
23	8.50	0.	2.04E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.71E-08	9.10E-07
24	8.40	0.	2.03E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.76E-08	9.43E-07
25	8.30	0.	1.71E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.80E-08	9.78E-07
26	8.20	0.	1.73E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.85E-08	1.01E-06
27	8.10	0.	1.49E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.89E-08	1.05E-06
28	8.00	0.	1.50E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.94E-08	1.09E-06
29	7.90	0.	1.29E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.99E-08	1.13E-06
30	7.80	0.	1.33E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.03E-08	1.18E-06
31	7.70	0.	1.17E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.08E-08	1.23E-06
32	7.60	0.	1.10E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.12E-08	1.28E-06
33	7.50	0.	1.02E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.17E-08	1.33E-06
34	7.40	0.	9.15E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.22E-08	1.38E-06
35	7.30	0.	8.65E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.27E-08	1.44E-06
36	7.20	0.	7.79E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.32E-08	1.50E-06
37	7.10	0.	7.47E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.40E-08	1.57E-06
38	7.00	3.13E-15	6.84E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.48E-08	1.64E-06
39	6.90	6.11E-15	6.26E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.55E-08	1.71E-06
40	6.80	5.26E-15	6.01E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.63E-08	1.79E-06
41	6.70	3.82E-15	5.25E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.70E-08	1.87E-06
42	6.60	2.32E-15	4.70E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.78E-08	1.96E-06
43	6.50	1.34E-15	3.73E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.86E-08	2.05E-06
44	6.40	7.64E-16	2.57E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.93E-08	2.15E-06
45	6.30	4.42E-16	1.59E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.00E-07	2.25E-06
46	6.20	1.99E-16	8.80E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.01E-07	2.36E-06
47	6.10	9.12E-17	4.11E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-07	2.48E-06
48	6.00	3.73E-17	1.04E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-07	2.61E-06
49	5.90	9.32E-18	7.47E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-07	2.74E-06
50	5.80	1.17E-18	1.83E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.01E-07	2.89E-06
51	5.70	8.74E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.47E-08	3.05E-06

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-06 (10.0E-04 NORMAL)																	
PHOTON O2 S-R		N2		N2+		BETA		GAMMA		VIB-ROT		NO		O-		FREE-FREE		N		P.E.		C		TOTAL AIR	
ENERGY HANDS		1ST POS.		2ND POS.		1ST NEG.		NO		NO		NO		NO		PHOTO-DET		(IUNS)							
52	5.60	3.94E-21	0.	0.	0.	0.	5.54E-13	3.58E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
53	5.50	0.	0.	0.	0.	0.	6.76E-13	3.33E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
54	5.40	0.	0.	0.	0.	0.	6.19E-13	2.67E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	5.30	0.	0.	0.	0.	0.	6.34E-13	3.41E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	5.20	0.	0.	0.	0.	0.	6.81E-13	2.53E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	5.10	0.	0.	0.	0.	0.	6.79E-13	3.26E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	5.00	5.35E-14	0.	0.	0.	0.	6.20E-13	3.04E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	4.90	1.30E-13	0.	0.	0.	0.	6.90E-13	3.31E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	4.80	2.42E-13	0.	0.	0.	0.	7.40E-13	3.10E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	4.70	3.25E-13	0.	0.	0.	0.	7.38E-13	2.81E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	4.60	4.46E-13	0.	0.	0.	0.	7.57E-13	2.55E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
63	4.50	4.68E-13	0.	0.	0.	0.	6.92E-13	1.92E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
64	4.40	4.96E-13	0.	0.	0.	0.	6.93E-13	1.32E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
65	4.30	4.70E-13	0.	0.	0.	0.	6.60E-13	8.26E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
66	4.20	4.38E-13	0.	0.	0.	0.	6.94E-13	5.85E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
67	4.10	4.11E-13	0.	0.	0.	0.	6.78E-13	1.62E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
68	4.00	3.78E-13	0.	0.	0.	0.	6.53E-13	1.22E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
69	3.90	3.20E-13	0.	0.	0.	0.	1.14E-11	2.62E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	3.80	3.51E-13	0.	0.	0.	0.	1.80E-11	1.15E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	3.70	3.11E-13	0.	0.	0.	0.	1.91E-11	4.67E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
72	3.60	2.80E-13	0.	0.	0.	0.	1.33E-11	2.53E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
73	3.50	2.61E-13	0.	0.	0.	0.	1.77E-11	5.01E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
74	3.40	2.39E-13	0.	0.	0.	0.	1.11E-11	7.20E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
75	3.30	1.91E-13	0.	0.	0.	0.	1.14E-11	2.85E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
76	3.20	1.66E-13	0.	0.	0.	0.	7.42E-12	4.89E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
77	3.10	1.59E-13	0.	0.	0.	0.	5.75E-12	1.14E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
78	3.00	1.42E-13	0.	0.	0.	0.	3.52E-12	2.73E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
79	2.90	1.19E-13	0.	0.	0.	0.	2.19E-12	1.51E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	2.80	1.24E-13	0.	0.	0.	0.	1.06E-12	9.46E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
81	2.70	7.97E-14	0.	0.	0.	0.	4.94E-13	1.30E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82	2.60	3.74E-14	0.	0.	0.	0.	2.41E-13	1.30E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
83	2.50	2.62E-15	0.	0.	0.	0.	2.61E-14	1.24E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
84	2.40	0.	0.	0.	0.	0.	1.21E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85	2.30	0.	0.	0.	0.	0.	3.82E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
86	2.20	0.	0.	0.	0.	0.	9.83E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87	2.10	0.	0.	0.	0.	0.	1.05E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
88	2.00	0.	0.	0.	0.	0.	2.05E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
89	1.90	0.	0.	0.	0.	0.	2.67E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90	1.80	0.	0.	0.	0.	0.	2.25E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
91	1.70	0.	0.	0.	0.	0.	2.59E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92	1.60	0.	0.	0.	0.	0.	1.93E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
93	1.50	0.	0.	0.	0.	0.	2.23E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
94	1.40	0.	0.	0.	0.	0.	2.21E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	1.70E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	1.62E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	1.53E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	0.	0.	0.	0.	1.41E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	0.	0.	0.	0.	0.	1.16E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	0.	0.	0.	0.	0.	5.44E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	0.	0.	0.	0.	0.	1.29E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	0.	0.	0.	0.	0.	2.24E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-07 (10.0E-05 NORMAL)				
PHOTON O2 S-R	O2 S-R	V2 R-H	NO	NO	GAMMA	NO	NO	PHOTO-DET (IONS)	FREE-FREE	N	U	TOTAL AIR
ENERGY HANDS	CONT.	NO. 1	BETA	BETA						P.E.	P.E.	P.E.
E.V.												
1 16.70 0.	0.	1.00E-14	0.	0.	0.	0.	0.	1.01E-10	5.14E-09	5.18E-07	1.55E-07	6.79E-07
2 10.60 0.	0.	9.07E-15	0.	0.	0.	0.	0.	1.02E-10	5.28E-09	5.22E-07	1.55E-07	6.82E-07
3 10.50 0.	0.	8.15E-15	0.	0.	0.	0.	0.	1.02E-10	5.44E-09	4.62E-07	1.54E-07	6.22E-07
4 10.40 0.	0.	8.66E-15	0.	0.	0.	0.	0.	1.02E-10	5.60E-09	4.64E-07	1.54E-07	6.23E-07
5 10.30 0.	0.	7.53E-15	0.	0.	0.	0.	0.	1.02E-10	5.76E-09	4.64E-07	1.53E-07	6.23E-07
6 10.20 0.	0.	7.76E-15	0.	0.	0.	0.	0.	1.02E-10	5.93E-09	4.65E-07	1.52E-07	6.24E-07
7 10.10 0.	0.	7.29E-15	0.	0.	0.	0.	0.	1.02E-10	6.11E-09	4.67E-07	1.52E-07	6.25E-07
8 10.00 0.	0.	6.38E-15	0.	0.	0.	0.	0.	1.02E-10	6.30E-09	4.68E-07	1.51E-07	6.26E-07
9 9.90 0.	0.	6.54E-15	0.	0.	0.	0.	0.	1.02E-10	6.49E-09	4.69E-07	1.51E-07	6.26E-07
10 9.80 0.	0.	6.13E-15	0.	0.	0.	0.	0.	1.03E-10	6.69E-09	4.70E-07	1.50E-07	6.27E-07
11 9.70 0.	0.	5.28E-15	0.	0.	0.	0.	0.	1.03E-10	6.90E-09	4.72E-07	1.50E-07	6.28E-07
12 9.60 0.	0.	5.71E-15	0.	0.	0.	0.	0.	1.03E-10	7.12E-09	4.73E-07	1.49E-07	6.29E-07
13 9.50 0.	0.	4.86E-15	0.	0.	0.	0.	0.	1.03E-10	7.35E-09	4.74E-07	1.48E-07	6.30E-07
14 9.40 0.	0.	4.59E-15	0.	0.	0.	0.	0.	1.04E-10	7.59E-09	4.76E-07	1.48E-07	6.32E-07
15 9.30 0.	0.	4.70E-15	0.	0.	0.	0.	0.	1.04E-10	7.84E-09	4.80E-07	1.47E-07	6.35E-07
16 9.20 0.	0.	3.88E-15	0.	0.	0.	0.	0.	1.04E-10	8.10E-09	4.80E-07	1.47E-07	6.35E-07
17 9.10 0.	0.	3.98E-15	0.	0.	0.	0.	0.	1.05E-10	8.37E-09	4.81E-07	1.46E-07	6.35E-07
18 9.00 0.	0.	3.61E-15	0.	0.	0.	0.	0.	1.05E-10	8.66E-09	4.81E-07	1.46E-07	6.35E-07
19 8.90 0.	0.	3.33E-15	0.	0.	0.	0.	0.	1.05E-10	8.96E-09	4.81E-07	1.45E-07	6.35E-07
20 8.80 0.	0.	3.27E-15	0.	0.	0.	0.	0.	1.06E-10	9.27E-09	4.81E-07	1.45E-07	6.35E-07
21 8.70 0.	0.	2.83E-15	0.	0.	0.	0.	0.	1.06E-10	9.60E-09	4.82E-07	1.44E-07	6.36E-07
22 8.60 0.	0.	2.92E-15	0.	0.	0.	0.	0.	1.07E-10	9.94E-09	4.82E-07	1.43E-07	6.36E-07
23 8.50 0.	0.	2.55E-15	0.	0.	0.	0.	0.	1.07E-10	1.03E-08	4.83E-07	1.43E-07	6.36E-07
24 8.40 0.	0.	2.53E-15	0.	0.	0.	0.	0.	1.08E-10	1.07E-08	4.83E-07	1.43E-07	6.36E-07
25 8.30 0.	0.	2.14E-15	0.	0.	0.	0.	0.	1.08E-10	1.11E-08	4.84E-07	1.42E-07	6.37E-07
26 8.20 0.	0.	2.16E-15	0.	0.	0.	0.	0.	1.09E-10	1.15E-08	4.85E-07	1.43E-07	6.39E-07
27 8.10 0.	0.	1.86E-15	0.	0.	0.	0.	0.	1.09E-10	1.19E-08	4.85E-07	1.43E-07	6.39E-07
28 8.00 0.	0.	1.87E-15	0.	0.	0.	0.	0.	1.10E-10	1.24E-08	4.85E-07	1.43E-07	6.39E-07
29 7.90 0.	0.	1.60E-15	0.	0.	0.	0.	0.	1.10E-10	1.28E-08	4.85E-07	1.44E-07	6.35E-07
30 7.80 0.	0.	1.66E-15	0.	0.	0.	0.	0.	1.11E-10	1.33E-08	4.85E-07	1.44E-07	6.35E-07
31 7.70 0.	0.	1.45E-15	0.	0.	0.	0.	0.	1.11E-10	1.39E-08	4.85E-07	1.44E-07	6.39E-07
32 7.60 0.	0.	1.38E-15	0.	0.	9.75E-20	0.	0.	1.12E-10	1.44E-08	4.85E-07	1.45E-07	6.41E-07
33 7.50 0.	0.	1.27E-15	0.	0.	3.43E-19	0.	0.	1.13E-10	1.50E-08	4.85E-07	1.45E-07	6.44E-07
34 7.40 0.	0.	1.14E-15	0.	0.	2.75E-18	0.	0.	1.13E-10	1.56E-08	4.85E-07	1.46E-07	6.46E-07
35 7.30 0.	0.	1.08E-15	0.	0.	1.11E-17	0.	0.	1.14E-10	1.63E-08	4.86E-07	1.46E-07	6.49E-07
36 7.20 0.	0.	9.73E-16	0.	0.	3.03E-17	0.	0.	1.14E-10	1.70E-08	4.86E-07	1.46E-07	6.51E-07
37 7.10 0.	0.	9.32E-16	0.	0.	9.36E-17	0.	0.	1.16E-10	1.77E-08	4.89E-07	1.47E-07	6.54E-07
38 7.00 0.	0.	8.54E-16	0.	0.	1.91E-16	0.	0.	1.16E-10	1.85E-08	4.90E-07	1.47E-07	6.56E-07
39 6.90 0.	0.	7.81E-16	0.	0.	2.58E-16	0.	0.	1.17E-10	1.93E-08	4.92E-07	1.47E-07	6.59E-07
40 6.80 0.	0.	7.50E-16	0.	0.	4.56E-16	0.	0.	1.18E-10	2.02E-08	4.93E-07	1.48E-07	6.61E-07
41 6.70 0.	0.	6.55E-16	0.	0.	4.60E-16	0.	0.	1.19E-10	2.11E-08	4.95E-07	1.48E-07	6.65E-07
42 6.60 0.	0.	5.86E-16	0.	0.	3.68E-16	0.	0.	1.20E-10	2.21E-08	4.97E-07	1.49E-07	6.68E-07
43 6.50 0.	0.	4.65E-16	0.	0.	5.52E-16	0.	0.	1.21E-10	2.32E-08	5.00E-07	1.49E-07	6.72E-07
44 6.40 0.	0.	3.20E-16	0.	1.97E-18	5.30E-16	0.	0.	1.22E-10	2.43E-08	5.02E-07	1.50E-07	6.77E-07
45 6.30 0.	0.	1.99E-16	0.	9.25E-18	3.67E-16	0.	0.	1.23E-10	2.55E-08	5.04E-07	1.51E-07	6.81E-07
46 6.20 0.	0.	1.10E-16	0.	1.31E-17	5.08E-16	0.	0.	1.24E-10	2.67E-08	5.07E-07	1.53E-07	6.86E-07
47 6.10 0.	0.	5.14E-17	0.	3.73E-17	6.41E-16	0.	0.	1.25E-10	2.81E-08	5.10E-07	1.54E-07	6.92E-07
48 6.00 0.	0.	1.30E-17	0.	3.55E-17	3.08E-16	0.	0.	1.26E-10	2.95E-08	5.13E-07	1.56E-07	6.98E-07
49 5.90 0.	0.	9.32E-19	0.	5.20E-17	3.02E-16	0.	0.	1.26E-10	3.10E-08	5.16E-07	1.57E-07	7.05E-07
50 5.80 0.	0.	2.35E-20	0.	7.25E-17	3.09E-16	0.	0.	1.24E-10	3.27E-08	5.20E-07	1.59E-07	7.11E-07
51 5.70 0.	0.	1.17E-23	0.	8.46E-17	3.46E-16	0.	0.	1.16E-10	3.44E-08	5.27E-07	1.60E-07	7.40E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-07 (10.0E-05 NORMAL)											
PHOTON 02 S-R		1ST POS.		2ND POS.		1ST NEG.		2ND NEG.		1ST POS.		2ND POS.		1ST NEG.		2ND NEG.			
ENERGY BANDS		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
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		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
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		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
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		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	
		N2		N2+		BETA		GAMMA		VIR-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		TOTAL AIR	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 17000.				DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)						
PHOTON ENERGY BANDS	O2 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	N P.t.	O P.E.	TOTAL AIR	
1 10.70 0	0.	1.02E-18	0.	0.	0.	1.06E-13	5.49E-11	5.82E-09	1.62E-09	7.49E-09
2 10.60 0.	0.	9.24E-19	0.	0.	0.	1.07E-13	5.65E-11	5.85E-09	1.61E-09	7.52E-09
3 10.50 0.	0.	9.32E-19	0.	0.	0.	1.07E-13	5.81E-11	5.87E-09	1.61E-09	7.54E-09
4 10.40 0.	0.	8.82E-19	0.	0.	0.	1.07E-13	5.98E-11	5.90E-09	1.60E-09	7.56E-09
5 10.30 0.	0.	7.67E-19	0.	0.	0.	1.07E-13	6.16E-11	5.91E-09	1.60E-09	7.57E-09
6 10.20 0.	0.	7.91E-19	0.	0.	0.	1.07E-13	6.34E-11	5.94E-09	1.59E-09	7.59E-09
7 10.10 0.	0.	7.43E-19	0.	0.	0.	1.07E-13	6.53E-11	5.96E-09	1.59E-09	7.62E-09
8 10.00 0.	0.	6.50E-19	0.	0.	0.	1.07E-13	6.73E-11	5.99E-09	1.58E-09	7.64E-09
9 9.90 0.	0.	6.67E-19	0.	0.	0.	1.08E-13	6.94E-11	6.02E-09	1.57E-09	7.66E-09
10 9.80 0.	0.	6.25E-19	0.	0.	0.	1.08E-13	7.15E-11	6.05E-09	1.57E-09	7.69E-09
11 9.70 0.	0.	5.38E-19	0.	0.	0.	1.08E-13	7.38E-11	6.07E-09	1.56E-09	7.71E-09
12 9.60 0.	0.	5.81E-19	0.	0.	0.	1.08E-13	7.61E-11	6.10E-09	1.56E-09	7.74E-09
13 9.50 0.	0.	4.95E-19	0.	0.	0.	1.08E-13	7.86E-11	6.13E-09	1.55E-09	7.76E-09
14 9.40 0.	0.	4.68E-19	0.	0.	0.	1.09E-13	8.11E-11	6.16E-09	1.55E-09	7.79E-09
15 9.30 0.	0.	4.79E-19	0.	0.	0.	1.09E-13	8.38E-11	6.19E-09	1.54E-09	7.81E-09
16 9.20 0.	0.	3.95E-19	0.	0.	0.	1.10E-13	8.66E-11	6.20E-09	1.53E-09	7.83E-09
17 9.10 0.	0.	4.06E-19	0.	0.	0.	1.10E-13	8.95E-11	6.22E-09	1.53E-09	7.84E-09
18 9.00 0.	0.	3.68E-19	0.	0.	0.	1.10E-13	9.26E-11	6.24E-09	1.52E-09	7.85E-09
19 8.90 0.	0.	3.40E-19	0.	0.	0.	1.11E-13	9.58E-11	6.25E-09	1.50E-09	7.85E-09
20 8.80 0.	0.	3.33E-19	0.	0.	0.	1.11E-13	9.91E-11	6.27E-09	1.50E-09	7.87E-09
21 8.70 0.	0.	2.88E-19	0.	0.	0.	1.12E-13	1.03E-10	6.29E-09	1.49E-09	7.88E-09
22 8.60 0.	0.	2.97E-19	0.	0.	0.	1.12E-13	1.06E-10	6.30E-09	1.49E-09	7.90E-09
23 8.50 0.	0.	2.59E-19	0.	0.	0.	1.12E-13	1.10E-10	6.33E-09	1.48E-09	7.92E-09
24 8.40 0.	0.	2.58E-19	0.	0.	0.	1.13E-13	1.14E-10	6.35E-09	1.48E-09	7.94E-09
25 8.30 0.	0.	2.18E-19	0.	0.	0.	1.14E-13	1.18E-10	6.42E-09	1.48E-09	7.94E-09
26 8.20 0.	0.	2.20E-19	0.	0.	0.	1.14E-13	1.23E-10	6.46E-09	1.48E-09	7.96E-09
27 8.10 0.	0.	1.90E-19	0.	0.	0.	1.15E-13	1.27E-10	6.49E-09	1.49E-09	7.99E-09
28 8.00 0.	0.	1.91E-19	0.	0.	0.	1.15E-13	1.32E-10	6.53E-09	1.49E-09	8.01E-09
29 7.90 0.	0.	1.64E-19	0.	0.	0.	1.16E-13	1.37E-10	6.58E-09	1.49E-09	8.04E-09
30 7.80 0.	0.	1.69E-19	0.	0.	0.	1.17E-13	1.43E-10	6.62E-09	1.50E-09	8.06E-09
31 7.70 0.	0.	1.48E-19	0.	0.	0.	1.17E-13	1.48E-10	6.66E-09	1.50E-09	8.08E-09
32 7.60 0.	0.	1.40E-19	0.	1.01E-23	0.	1.18E-13	1.54E-10	6.71E-09	1.51E-09	8.08E-09
33 7.50 0.	0.	1.30E-19	0.	3.57E-23	0.	1.18E-13	1.61E-10	6.76E-09	1.51E-09	8.08E-09
34 7.40 0.	0.	1.16E-19	0.	2.85E-23	0.	1.19E-13	1.67E-10	6.81E-09	1.52E-09	8.08E-09
35 7.30 0.	0.	1.10E-19	0.	2.16E-21	0.	1.20E-13	1.74E-10	6.80E-09	1.52E-09	8.08E-09
36 7.20 0.	0.	9.91E-20	0.	3.15E-21	0.	1.20E-13	1.82E-10	6.87E-09	1.53E-09	8.08E-09
37 7.10 0.	0.	9.50E-20	0.	9.72E-21	0.	1.21E-13	1.89E-10	6.94E-09	1.53E-09	8.08E-09
38 7.00 4.44E-23 0.	0.	8.70E-20	0.	1.98E-20	0.	1.22E-13	1.98E-10	7.01E-09	1.54E-09	8.08E-09
39 6.90 8.66E-23 0.	0.	7.96E-20	0.	2.68E-20	0.	1.23E-13	2.07E-10	7.08E-09	1.54E-09	8.08E-09
40 6.80 7.45E-23 0.	0.	7.64E-20	0.	4.74E-20	0.	1.24E-13	2.16E-10	7.15E-09	1.55E-09	8.08E-09
41 6.70 5.41E-23 0.	0.	6.68E-20	0.	4.78E-20	0.	1.25E-13	2.26E-10	7.22E-09	1.55E-09	8.08E-09
42 6.60 3.24E-23 0.	0.	5.97E-20	0.	3.82E-20	0.	1.26E-13	2.36E-10	7.29E-09	1.56E-09	8.08E-09
43 6.50 1.90E-23 0.	0.	4.74E-20	0.	5.73E-20	0.	1.27E-13	2.48E-10	7.37E-09	1.57E-09	8.08E-09
44 6.40 1.06E-23 0.	0.	3.26E-20	0.	5.50E-20	0.	1.28E-13	2.59E-10	7.45E-09	1.57E-09	8.08E-09
45 6.30 6.27E-24 0.	0.	2.03E-20	9.61E-22	5.81E-20	0.	1.29E-13	2.72E-10	7.53E-09	1.58E-09	8.08E-09
46 6.20 2.82E-24 0.	0.	1.12E-20	1.36E-21	5.27E-20	0.	1.30E-13	2.86E-10	7.61E-09	1.60E-09	8.08E-09
47 6.10 1.29E-24 0.	0.	5.23E-21	3.87E-21	6.65E-20	0.	1.31E-13	3.00E-10	7.70E-09	1.62E-09	8.08E-09
48 6.00 5.31E-25 0.	0.	1.33E-21	3.69E-21	3.20E-20	0.	1.32E-13	3.15E-10	7.80E-09	1.61E-09	8.08E-09
49 5.90 1.37E-25 0.	0.	9.49E-23	5.40E-21	3.14E-20	0.	1.32E-13	3.32E-10	7.92E-09	1.62E-09	8.08E-09
50 5.80 1.68E-26 0.	0.	2.39E-24	7.53E-21	3.21E-20	0.	1.30E-13	3.49E-10	8.04E-09	1.64E-09	8.08E-09
51 5.70 1.24E-27 0.	0.	0.	8.78E-21	3.59E-20	0.	1.22E-13	3.68E-10	8.26E-09	1.65E-09	8.08E-09

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-08 ( 1.0E-05 NORMAL)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
PHOTON U2 S-R		N2		N2		N2+		NU		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO		NO			

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1700C.		DENSITY (GM/CC)		1.293E-04		(1.0E-06 NORMAL)		O-		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY		02 S-R		02 S-R		NO		NO		NO		NO		NO		NO		NO	
E.V.		CONT.		CONT.		BETA		GAMMA		2		PHOTO-DET		P.E.		P.E.		P.E.	
1	10.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-16	7.84E-13	1.59E-10	1.99E-11	1.80E-10	1.80E-10	1.80E-10	1.80E-10
2	10.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-16	8.06E-13	1.60E-10	1.98E-11	1.80E-10	1.80E-10	1.80E-10	1.80E-10
3	10.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-16	8.29E-13	1.61E-10	1.98E-11	1.80E-10	1.80E-10	1.80E-10	1.80E-10
4	10.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-16	8.54E-13	1.61E-10	1.97E-11	1.82E-10	1.82E-10	1.82E-10	1.82E-10
5	10.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-16	8.79E-13	1.62E-10	1.96E-11	1.83E-10	1.83E-10	1.83E-10	1.83E-10
6	10.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-16	9.05E-13	1.64E-10	1.96E-11	1.84E-10	1.84E-10	1.84E-10	1.84E-10
7	10.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-16	9.32E-13	1.65E-10	1.95E-11	1.85E-10	1.85E-10	1.85E-10	1.85E-10
8	10.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-16	9.60E-13	1.67E-10	1.95E-11	1.88E-10	1.88E-10	1.88E-10	1.88E-10
9	9.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-16	9.90E-13	1.69E-10	1.94E-11	1.89E-10	1.89E-10	1.89E-10	1.89E-10
10	9.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-16	1.02E-12	1.70E-10	1.94E-11	1.91E-10	1.91E-10	1.91E-10	1.91E-10
11	9.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-16	1.05E-12	1.72E-10	1.94E-11	1.92E-10	1.92E-10	1.92E-10	1.92E-10
12	9.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-16	1.09E-12	1.73E-10	1.93E-11	1.94E-10	1.94E-10	1.94E-10	1.94E-10
13	9.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-16	1.12E-12	1.75E-10	1.93E-11	1.95E-10	1.95E-10	1.95E-10	1.95E-10
14	9.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-16	1.16E-12	1.77E-10	1.92E-11	1.96E-10	1.96E-10	1.96E-10	1.96E-10
15	9.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.32E-16	1.19E-12	1.79E-10	1.92E-11	1.97E-10	1.97E-10	1.97E-10	1.97E-10
16	9.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.32E-16	1.23E-12	1.80E-10	1.91E-11	1.98E-10	1.98E-10	1.98E-10	1.98E-10
17	9.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.33E-16	1.28E-12	1.82E-10	1.91E-11	1.99E-10	1.99E-10	1.99E-10	1.99E-10
18	9.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.33E-16	1.32E-12	1.84E-10	1.90E-11	2.00E-10	2.00E-10	2.00E-10	2.00E-10
19	8.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.34E-16	1.37E-12	1.86E-10	1.89E-11	2.01E-10	2.01E-10	2.01E-10	2.01E-10
20	8.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.34E-16	1.41E-12	1.88E-10	1.88E-11	2.02E-10	2.02E-10	2.02E-10	2.02E-10
21	8.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.35E-16	1.46E-12	1.90E-10	1.87E-11	2.03E-10	2.03E-10	2.03E-10	2.03E-10
22	8.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.35E-16	1.51E-12	1.92E-10	1.86E-11	2.04E-10	2.04E-10	2.04E-10	2.04E-10
23	8.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.36E-16	1.57E-12	1.94E-10	1.85E-11	2.05E-10	2.05E-10	2.05E-10	2.05E-10
24	8.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.36E-16	1.63E-12	1.96E-10	1.84E-11	2.06E-10	2.06E-10	2.06E-10	2.06E-10
25	8.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.37E-16	1.68E-12	1.98E-10	1.83E-11	2.07E-10	2.07E-10	2.07E-10	2.07E-10
26	8.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.38E-16	1.75E-12	2.00E-10	1.82E-11	2.08E-10	2.08E-10	2.08E-10	2.08E-10
27	8.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.39E-16	1.81E-12	2.02E-10	1.81E-11	2.09E-10	2.09E-10	2.09E-10	2.09E-10
28	8.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.39E-16	1.88E-12	2.04E-10	1.80E-11	2.10E-10	2.10E-10	2.10E-10	2.10E-10
29	7.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.40E-16	1.96E-12	2.06E-10	1.79E-11	2.11E-10	2.11E-10	2.11E-10	2.11E-10
30	7.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.41E-16	2.03E-12	2.08E-10	1.78E-11	2.12E-10	2.12E-10	2.12E-10	2.12E-10
31	7.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.41E-16	2.11E-12	2.10E-10	1.77E-11	2.13E-10	2.13E-10	2.13E-10	2.13E-10
32	7.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E-16	2.20E-12	2.12E-10	1.76E-11	2.14E-10	2.14E-10	2.14E-10	2.14E-10
33	7.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.43E-16	2.29E-12	2.14E-10	1.75E-11	2.15E-10	2.15E-10	2.15E-10	2.15E-10
34	7.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.44E-16	2.38E-12	2.16E-10	1.74E-11	2.16E-10	2.16E-10	2.16E-10	2.16E-10
35	7.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.44E-16	2.48E-12	2.18E-10	1.73E-11	2.17E-10	2.17E-10	2.17E-10	2.17E-10
36	7.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.45E-16	2.59E-12	2.20E-10	1.72E-11	2.18E-10	2.18E-10	2.18E-10	2.18E-10
37	7.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-16	2.70E-12	2.22E-10	1.71E-11	2.19E-10	2.19E-10	2.19E-10	2.19E-10
38	7.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.48E-16	2.82E-12	2.24E-10	1.70E-11	2.20E-10	2.20E-10	2.20E-10	2.20E-10
39	6.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.48E-16	2.94E-12	2.26E-10	1.69E-11	2.21E-10	2.21E-10	2.21E-10	2.21E-10
40	6.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.49E-16	3.08E-12	2.28E-10	1.68E-11	2.22E-10	2.22E-10	2.22E-10	2.22E-10
41	6.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.50E-16	3.22E-12	2.30E-10	1.67E-11	2.23E-10	2.23E-10	2.23E-10	2.23E-10
42	6.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.52E-16	3.37E-12	2.32E-10	1.66E-11	2.24E-10	2.24E-10	2.24E-10	2.24E-10
43	6.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.54E-16	3.53E-12	2.34E-10	1.65E-11	2.25E-10	2.25E-10	2.25E-10	2.25E-10
44	6.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-16	3.69E-12	2.36E-10	1.64E-11	2.26E-10	2.26E-10	2.26E-10	2.26E-10
45	6.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.56E-16	3.87E-12	2.38E-10	1.63E-11	2.27E-10	2.27E-10	2.27E-10	2.27E-10
46	6.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.57E-16	4.07E-12	2.40E-10	1.62E-11	2.28E-10	2.28E-10	2.28E-10	2.28E-10
47	6.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.58E-16	4.27E-12	2.42E-10	1.61E-11	2.29E-10	2.29E-10	2.29E-10	2.29E-10
48	6.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.59E-16	4.49E-12	2.44E-10	1.60E-11	2.30E-10	2.30E-10	2.30E-10	2.30E-10
49	5.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.59E-16	4.72E-12	2.46E-10	1.59E-11	2.31E-10	2.31E-10	2.31E-10	2.31E-10
50	5.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.57E-16	4.97E-12	2.48E-10	1.58E-11	2.32E-10	2.32E-10	2.32E-10	2.32E-10
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.48E-16	5.24E-12	2.50E-10	1.57E-11	2.33E-10	2.33E-10	2.33E-10	2.33E-10



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R ENERGY BANDS	N2 1ST PUS.	N2 2ND PUS.	N2+ 1ST NEG.	BETA	N0 GAMMA	N0 VIR-ROT	N0 2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL ALIP
52	5.60 6.67E-33	0.	0.	7.81E-25	5.05E-24	0.	0.	1.37E-16	5.53E-12	5.83E-11	1.91E-11	8.29E-11
53	5.50 0.	0.	0.	9.53E-25	4.69E-24	0.	0.	1.38E-16	5.83E-12	6.10E-11	1.94E-11	8.63E-11
54	5.40 0.	0.	0.	8.72E-25	3.77E-24	0.	0.	1.39E-16	6.17E-12	6.40E-11	1.97E-11	8.99E-11
55	5.30 0.	0.	0.	8.94E-25	4.80E-24	0.	0.	1.40E-16	6.52E-12	6.70E-11	1.96E-11	9.31E-11
56	5.20 0.	0.	0.	9.61E-25	3.56E-24	0.	0.	1.40E-16	6.91E-12	7.01E-11	2.00E-11	9.69E-11
57	5.10 0.	0.	0.	9.58E-25	4.59E-24	0.	0.	1.42E-16	7.33E-12	7.32E-11	2.04E-11	1.01E-10
58	5.00 9.00E-26	0.	0.	8.74E-25	4.29E-24	0.	0.	1.43E-16	7.78E-12	7.64E-11	2.08E-11	1.05E-10
59	4.90 2.14E-25	0.	0.	9.72E-25	4.66E-24	0.	0.	1.44E-16	8.27E-12	7.96E-11	2.12E-11	1.09E-10
60	4.80 4.09E-25	0.	0.	1.04E-24	4.37E-24	0.	0.	1.45E-16	8.80E-12	8.29E-11	2.16E-11	1.13E-10
61	4.70 5.51E-25	0.	0.	1.04E-24	3.96E-24	0.	0.	1.46E-16	9.38E-12	8.75E-11	2.22E-11	1.19E-10
62	4.60 7.55E-25	0.	0.	1.07E-24	3.60E-24	0.	0.	1.48E-16	1.00E-11	9.34E-11	2.28E-11	1.26E-10
63	4.50 7.92E-25	0.	6.30E-25	9.75E-25	2.70E-24	0.	0.	1.49E-16	1.07E-11	9.96E-11	2.35E-11	1.34E-10
64	4.40 8.44E-25	0.	1.91E-24	9.77E-25	1.87E-24	0.	0.	1.50E-16	1.15E-11	1.06E-10	2.36E-11	1.41E-10
65	4.30 7.96E-25	0.	6.14E-24	9.30E-25	1.17E-24	0.	0.	1.51E-16	1.23E-11	1.12E-10	2.14E-11	1.46E-10
66	4.20 7.42E-25	0.	1.98E-23	9.79E-25	8.25E-25	0.	0.	1.52E-16	1.32E-11	1.19E-10	1.04E-11	1.43E-10
67	4.10 6.95E-25	0.	8.54E-24	9.55E-25	2.28E-25	0.	0.	1.53E-16	1.42E-11	1.24E-10	1.08E-11	1.49E-10
68	4.00 6.40E-25	0.	2.87E-23	9.20E-25	1.72E-25	0.	0.	1.54E-16	1.53E-11	1.23E-10	1.12E-11	1.50E-10
69	3.90 5.42E-25	0.	1.33E-23	8.47E-25	6.60E-26	0.	0.	1.53E-16	1.65E-11	1.30E-10	1.17E-11	1.58E-10
70	3.80 5.94E-25	0.	2.12E-23	9.10E-25	0.	0.	0.	1.52E-16	1.79E-11	1.36E-10	1.22E-11	1.66E-10
71	3.70 5.27E-25	0.	2.24E-23	7.73E-25	0.	0.	0.	1.50E-16	1.94E-11	1.43E-10	1.33E-11	1.75E-10
72	3.60 4.74E-25	0.	1.56E-23	8.36E-25	0.	0.	0.	1.40E-16	2.10E-11	1.51E-10	1.43E-11	1.86E-10
73	3.50 4.42E-25	0.	2.07E-23	6.58E-25	0.	0.	0.	1.29E-16	2.29E-11	1.62E-10	1.57E-11	1.91E-10
74	3.40 4.05E-25	0.	1.30E-23	7.37E-25	0.	0.	0.	7.42E-17	2.50E-11	1.81E-10	1.73E-11	2.05E-10
75	3.30 3.23E-25	0.	1.34E-23	5.87E-25	0.	0.	0.	7.43E-17	2.74E-11	1.81E-10	1.81E-11	2.12E-10
76	3.20 2.81E-25	0.	8.72E-24	6.16E-25	0.	0.	0.	7.44E-17	3.00E-11	1.82E-10	1.92E-11	2.20E-10
77	3.10 2.69E-25	0.	6.75E-24	5.82E-25	0.	0.	0.	7.46E-17	3.31E-11	1.929E-10	2.09E-11	2.27E-10
78	3.00 2.41E-25	0.	4.13E-24	5.47E-25	0.	0.	0.	7.48E-17	3.65E-11	1.03E-10	2.26E-11	2.42E-10
79	2.90 2.02E-25	0.	2.57E-24	4.16E-25	0.	0.	0.	7.49E-17	4.05E-11	1.12E-10	2.44E-11	2.67E-10
80	2.80 2.1E-25	0.	1.24E-24	2.87E-25	0.	0.	0.	7.50E-17	4.50E-11	1.23E-10	2.31E-11	2.97E-10
81	2.70 1.35E-25	0.	5.80E-25	1.56E-25	0.	0.	0.	7.50E-17	5.03E-11	1.34E-10	2.46E-11	3.41E-10
82	2.60 6.3E-26	0.	2.83E-25	6.86E-26	0.	0.	0.	7.50E-17	5.64E-11	1.19E-10	1.59E-11	4.62E-10
83	2.50 4.44E-27	0.	3.06E-26	1.63E-26	0.	0.	0.	7.50E-17	6.36E-11	1.35E-10	1.84E-11	6.21E-10
84	2.40 0.	1.42E-24	1.00E-19	1.74E-27	0.	0.	0.	7.50E-17	7.20E-11	1.58E-10	2.23E-11	8.10E-10
85	2.30 0.	4.48E-24	0.	0.	0.	0.	0.	7.44E-17	8.19E-11	1.83E-10	2.64E-11	1.07E-10
86	2.20 0.	1.15E-23	0.	0.	0.	0.	0.	7.41E-17	9.37E-11	2.08E-10	3.14E-11	1.33E-10
87	2.10 0.	1.24E-23	0.	0.	0.	0.	0.	7.38E-17	1.08E-10	1.55E-10	3.45E-11	1.62E-10
88	2.00 0.	2.41E-23	0.	0.	0.	0.	0.	7.14E-17	1.25E-10	1.76E-10	3.95E-11	2.07E-10
89	1.90 0.	3.13E-23	0.	0.	0.	0.	0.	6.87E-17	1.47E-10	2.00E-10	4.56E-11	2.52E-10
90	1.80 0.	2.64E-23	0.	0.	0.	0.	0.	6.57E-17	1.73E-10	2.34E-10	5.51E-11	3.07E-10
91	1.70 0.	3.05E-23	0.	0.	0.	0.	0.	6.19E-17	2.05E-10	2.75E-10	6.37E-11	3.62E-10
92	1.60 0.	2.26E-23	0.	0.	0.	0.	0.	5.24E-17	2.47E-10	2.99E-10	7.53E-11	4.21E-10
93	1.50 0.	2.62E-23	0.	0.	0.	0.	0.	2.38E-17	3.01E-10	2.87E-10	8.53E-11	4.82E-10
94	1.40 0.	2.60E-23	0.	0.	0.	0.	0.	0.	3.72E-10	3.59E-10	7.86E-11	5.44E-10
95	1.30 0.	1.99E-23	0.	0.	0.	0.	0.	0.	4.68E-10	3.93E-10	1.37E-10	6.07E-10
96	1.20 0.	1.91E-23	0.	0.	0.	0.	0.	0.	5.99E-10	5.37E-10	1.27E-10	6.73E-10
97	1.10 0.	1.80E-23	0.	0.	0.	0.	0.	0.	7.94E-10	6.62E-10	1.73E-10	7.41E-10
98	1.00 0.	1.65E-23	0.	0.	0.	0.	0.	0.	1.04E-09	8.03E-10	2.10E-10	8.10E-10
99	0.90 0.	1.36E-23	0.	0.	0.	0.	0.	0.	1.44E-09	9.08E-10	2.27E-10	8.80E-10
100	0.80 0.	6.38E-24	0.	0.	0.	0.	0.	0.	2.07E-09	9.52E-10	1.97E-10	9.50E-10
101	0.70 0.	1.51E-24	0.	0.	0.	0.	0.	0.	3.11E-09	9.74E-10	2.26E-10	1.03E-09
102	0.60 0.	2.63E-25	0.	0.	0.	0.	0.	0.	5.01E-09	1.09E-09	2.56E-10	1.10E-09

TEMPERATURE (DEGREES K) 1800.  
DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY E.V.	O2 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IUNS)	FREE-FREE N	P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	1.36E 00	0.	0.	0.	3.89E 00	1.26E-01	2.84E 02	2.10E 00	2.91E 02
2 10.60 0.	0.	1.24E 00	0.	0.	0.	3.89E 00	1.30E-01	9.29E 00	2.09E 00	1.66E 01
3 10.50 0.	0.	1.25E 00	0.	0.	0.	3.90E 00	1.33E-01	9.33E 00	2.08E 00	1.67E 01
4 10.40 0.	0.	1.19E 00	0.	0.	0.	3.90E 00	1.37E-01	9.36E 00	2.07E 00	1.67E 01
5 10.30 0.	0.	1.04E 00	0.	0.	0.	3.91E 00	1.41E-01	9.38E 00	2.06E 00	1.65E 01
6 10.20 0.	0.	1.08E 00	0.	0.	0.	3.91E 00	1.46E-01	9.40E 00	2.06E 00	1.66E 01
7 10.10 0.	0.	1.01E 00	0.	0.	0.	3.92E 00	1.50E-01	9.40E 00	2.05E 00	1.65E 01
8 10.00 0.	0.	8.91E-01	0.	0.	0.	3.92E 00	1.55E-01	9.42E 00	2.04E 00	1.64E 01
9 9.90 0.	0.	9.15E-01	0.	0.	0.	3.93E 00	1.59E-01	9.44E 00	2.03E 00	1.63E 01
10 9.80 0.	0.	8.61E-01	0.	0.	0.	3.94E 00	1.64E-01	9.47E 00	2.02E 00	1.65E 01
11 9.70 0.	0.	7.46E-01	0.	0.	0.	3.94E 00	1.69E-01	9.49E 00	2.02E 00	1.64E 01
12 9.60 0.	0.	8.06E-01	0.	0.	0.	3.95E 00	1.75E-01	9.51E 00	2.01E 00	1.65E 01
13 9.50 0.	0.	6.91E-01	0.	0.	0.	3.96E 00	1.81E-01	9.54E 00	2.00E 00	1.64E 01
14 9.40 0.	0.	6.55E-01	0.	0.	0.	3.97E 00	1.86E-01	9.57E 00	1.99E 00	1.64E 01
15 9.30 0.	0.	6.72E-01	0.	0.	0.	3.99E 00	1.93E-01	9.60E 00	1.98E 00	1.64E 01
16 9.20 0.	0.	5.58E-01	0.	0.	0.	4.00E 00	1.99E-01	9.63E 00	1.98E 00	1.64E 01
17 9.10 0.	0.	5.74E-01	0.	0.	0.	4.02E 00	2.06E-01	3.53E 00	1.97E 00	1.03E 01
18 9.00 0.	0.	5.23E-01	0.	0.	0.	4.03E 00	2.13E-01	3.53E 00	1.96E 00	1.03E 01
19 8.90 0.	0.	4.85E-01	0.	0.	0.	4.04E 00	2.20E-01	3.53E 00	1.95E 00	1.02E 01
20 8.80 0.	0.	4.77E-01	0.	0.	0.	4.06E 00	2.28E-01	3.54E 00	1.94E 00	1.02E 01
21 8.70 0.	0.	4.15E-01	0.	0.	0.	4.07E 00	2.36E-01	3.54E 00	1.94E 00	1.02E 01
22 8.60 0.	0.	4.28E-01	0.	0.	0.	4.09E 00	2.44E-01	3.55E 00	1.93E 00	1.02E 01
23 8.50 0.	0.	3.76E-01	0.	0.	0.	4.10E 00	2.53E-01	3.56E 00	1.92E 00	1.02E 01
24 8.40 0.	0.	3.74E-01	0.	0.	0.	4.13E 00	2.62E-01	3.57E 00	1.92E 00	1.02E 01
25 8.30 0.	0.	3.18E-01	0.	0.	0.	4.15E 00	2.72E-01	3.58E 00	1.91E 00	1.02E 01
26 8.20 0.	0.	3.22E-01	0.	0.	0.	4.17E 00	2.82E-01	3.59E 00	1.92E 00	1.03E 01
27 8.10 0.	0.	2.79E-01	0.	0.	0.	4.19E 00	2.92E-01	3.60E 00	1.92E 00	1.03E 01
28 8.00 0.	0.	2.81E-01	0.	0.	0.	4.21E 00	3.04E-01	3.62E 00	1.93E 00	1.03E 01
29 7.90 0.	0.	2.42E-01	0.	0.	0.	4.23E 00	3.15E-01	3.64E 00	1.93E 00	1.04E 01
30 7.80 0.	0.	2.52E-01	0.	0.	0.	4.25E 00	3.28E-01	3.66E 00	1.93E 00	1.04E 01
31 7.70 0.	0.	2.21E-01	0.	0.	0.	4.28E 00	3.41E-01	3.69E 00	1.94E 00	1.05E 01
32 7.60 0.	0.	2.11E-01	0.	9.13E-06	0.	4.30E 00	3.55E-01	3.71E 00	1.94E 00	1.05E 01
33 7.50 0.	0.	1.96E-01	0.	3.12E-05	0.	4.32E 00	3.69E-01	3.73E 00	1.94E 00	1.06E 01
34 7.40 0.	0.	1.76E-01	0.	2.59E-04	0.	4.34E 00	3.84E-01	3.76E 00	1.95E 00	1.06E 01
35 7.30 0.	0.	1.67E-01	0.	1.03E-03	0.	4.37E 00	4.01E-01	3.78E 00	1.95E 00	1.07E 01
36 7.20 0.	0.	1.51E-01	0.	2.82E-03	0.	4.39E 00	4.18E-01	3.80E 00	1.96E 00	1.07E 01
37 7.10 0.	0.	1.45E-01	0.	8.78E-03	0.	4.43E 00	4.36E-01	3.82E 00	1.96E 00	1.08E 01
38 7.00 0.	2.51E-05	1.34E-01	0.	1.75E-02	0.	4.46E 00	4.55E-01	3.85E 00	1.96E 00	1.09E 01
39 6.90 0.	4.91E-05	1.23E-01	0.	2.43E-02	0.	4.50E 00	4.75E-01	3.87E 00	1.97E 00	1.10E 01
40 6.80 0.	4.23E-05	1.19E-01	0.	4.22E-02	0.	4.53E 00	4.97E-01	3.89E 00	1.97E 00	1.11E 01
41 6.70 0.	3.09E-05	1.04E-01	0.	4.20E-02	0.	4.57E 00	5.19E-01	3.91E 00	1.98E 00	1.11E 01
42 6.60 0.	1.84E-05	9.34E-02	0.	3.44E-02	0.	4.61E 00	5.44E-01	3.95E 00	1.98E 00	1.12E 01
43 6.50 0.	1.09E-05	7.46E-02	0.	5.07E-02	0.	4.64E 00	5.69E-01	3.99E 00	1.99E 00	1.13E 01
44 6.40 0.	6.23E-06	5.17E-02	1.74E-04	4.80E-02	0.	4.68E 00	5.96E-01	4.03E 00	2.00E 00	1.14E 01
45 6.30 0.	3.62E-06	3.24E-02	8.19E-04	3.41E-02	0.	4.71E 00	6.26E-01	4.07E 00	2.01E 00	1.15E 01
46 6.20 0.	1.64E-06	1.80E-02	1.16E-03	4.67E-02	0.	4.75E 00	6.57E-01	4.12E 00	2.03E 00	1.16E 01
47 6.10 0.	7.53E-07	8.49E-03	3.33E-03	5.81E-02	0.	4.79E 00	6.90E-01	4.16E 00	2.05E 00	1.18E 01
48 6.00 0.	3.14E-07	2.16E-03	3.20E-03	2.85E-02	0.	4.82E 00	7.25E-01	4.22E 00	2.06E 00	1.19E 01
49 5.90 0.	7.74E-08	1.55E-04	4.69E-03	2.78E-02	0.	4.82E 00	7.63E-01	4.28E 00	2.08E 00	1.20E 01
50 5.80 0.	9.87E-09	3.90E-06	6.56E-03	2.86E-02	0.	4.75E 00	8.03E-01	4.34E 00	2.10E 00	1.20E 01
51 5.70 0.	7.27E-10	0.	7.70E-03	3.20E-02	0.	4.46E 00	8.46E-01	4.40E 00	2.12E 00	1.19E 01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 18000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON U2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	VIB-ROT	NO	PHOTO-DET (IONS)	FREE-FREE	N	P.E.	0	TOTAL AIR					
52	5.60	3.2HE-11	0.	0.	6.58E-03	4.24E-02	0.	4.15E	00	8.93E-01	4.48E	00	2.14F	00	1.17E	01		
53	5.50	0.	0.	0.	8.03E-03	3.93E-02	0.	4.17E	00	9.43E-01	4.57E	00	2.16E	00	1.19E	01		
54	5.40	0.	0.	0.	7.39E-03	3.20E-02	0.	4.19E	00	9.97E-01	4.69E	00	2.19E	00	1.21E	01		
55	5.30	0.	0.	0.	7.57E-03	4.04E-02	0.	4.22E	00	1.05E	00	4.81E	00	2.22E	00	1.24E	01	
56	5.20	0.	0.	0.	8.16E-03	3.05E-02	0.	4.25E	00	1.12E	00	4.94E	00	2.26E	00	1.26E	01	
57	5.10	0.	0.	0.	8.15E-03	3.92E-02	0.	4.28E	00	1.18E	00	5.08E	00	2.30E	00	1.29E	01	
58	5.00	4.5LE-04	0.	0.	7.46E-03	3.69E-02	0.	4.32E	00	1.26E	00	5.24E	00	2.34E	00	1.32E	01	
59	4.90	1.1LE-03	0.	0.	8.32E-03	4.02E-02	0.	4.35E	00	1.34E	00	5.42E	00	2.38E	00	1.35E	01	
60	4.80	2.0LE-03	0.	0.	8.94E-03	3.78E-02	0.	4.39E	00	1.42E	00	5.62E	00	2.43E	00	1.39E	01	
61	4.70	2.78E-03	0.	0.	8.95E-03	3.43E-02	0.	4.46E	00	1.52E	00	5.82E	00	2.50E	00	1.43E	01	
62	4.60	3.83E-03	0.	0.	9.20E-03	3.12E-02	0.	4.46E	00	1.62E	00	6.06E	00	2.56E	00	1.47E	01	
63	4.50	4.03E-03	0.	1.11E-02	8.44E-03	2.35E-02	0.	4.50E	00	1.73E	00	6.36E	00	2.63E	00	1.53E	01	
64	4.40	4.32E-03	0.	3.34E-02	8.48E-03	1.61E-02	0.	4.53E	00	1.85E	00	6.67E	00	2.70E	00	1.58E	01	
65	4.30	4.04E-03	0.	1.09E-01	8.10E-03	1.01E-02	0.	4.57E	00	1.99E	00	7.01E	00	2.77E	00	1.65E	01	
66	4.20	3.82E-03	0.	3.50E-01	8.53E-03	7.11E-03	0.	4.61E	00	2.14E	00	7.35E	00	2.85E	00	1.73E	01	
67	4.10	3.59E-03	0.	1.53E-01	8.36E-03	1.98E-03	0.	4.63E	00	2.30E	00	7.69E	00	2.85E	00	1.76E	01	
68	4.00	3.32E-03	0.	5.05E-01	8.08E-03	1.49E-03	0.	4.64E	00	2.48E	00	8.04E	00	1.21E	00	1.69E	01	
69	3.90	2.83E-03	0.	2.36E-01	7.47E-03	5.66E-04	0.	4.63E	00	2.67E	00	7.83E	00	1.25E	00	1.66E	01	
70	3.80	3.10E-03	0.	3.77E-01	8.05E-03	0.	0.	4.61E	00	2.89E	00	7.94E	00	1.30E	00	1.72E	01	
71	3.70	2.76E-03	0.	3.44E-01	2.86E-02	6.88E-03	0.	4.53E	00	3.14E	00	6.54E	00	1.43E	00	1.61E	01	
72	3.60	2.50E-03	0.	2.79E-01	1.52E-01	7.45E-03	0.	4.25E	00	3.41E	00	7.06E	00	1.57E	00	1.67E	01	
73	3.50	2.34E-03	0.	3.68E-01	2.91E-01	5.89E-03	0.	3.89E	00	3.71E	00	7.48E	00	1.72E	00	1.75E	01	
74	3.40	2.15E-03	0.	2.35E-01	4.39E-02	6.62E-03	0.	2.24E	00	4.05E	00	8.32E	00	1.90E	00	1.68E	01	
75	3.30	1.72E-03	0.	2.40E-01	1.70E-01	5.30E-03	0.	2.25E	00	4.43E	00	9.18E	00	2.08E	00	1.84E	01	
76	3.20	1.50E-03	0.	1.58E-01	2.82E-01	5.57E-03	0.	2.25E	00	4.87E	00	1.01E	01	2.27E	00	1.99E	01	
77	3.10	1.44E-03	0.	1.23E-01	6.94E-02	5.29E-03	0.	2.25E	00	5.36E	00	1.09E	01	2.46E	00	2.12E	01	
78	3.00	1.30E-03	0.	7.55E-02	1.62E-01	5.00E-03	0.	2.26E	00	5.93E	00	1.18E	01	2.61E	00	2.29E	01	
79	2.90	1.09E-03	0.	4.73E-02	8.91E-02	3.83E-03	0.	2.26E	00	6.57E	00	1.28E	01	2.86E	00	2.46E	01	
80	2.80	1.14E-03	0.	2.28E-02	5.76E-02	2.67E-03	0.	2.27E	00	7.31E	00	1.39E	01	3.09E	00	2.67E	01	
81	2.70	7.39E-04	0.	1.07E-02	7.67E-02	1.47E-03	0.	2.27E	00	8.17E	00	1.51E	01	3.35E	00	2.90E	01	
82	2.60	3.50E-04	0.	5.19E-03	7.80E-03	6.48E-04	0.	2.27E	00	9.17E	00	1.64E	01	3.61E	00	3.15E	01	
83	2.50	2.46E-05	0.	5.54E-04	7.53E-03	1.55E-04	0.	2.27E	00	1.03E	01	1.87E	01	2.17E	00	3.35E	01	
84	2.40	0.	2.53E-02	0.	6.02E-03	1.66E-05	0.	2.27E	00	1.17E	01	2.18E	01	2.56E	00	3.84E	01	
85	2.30	0.	7.79E-02	0.	0.	0.	0.	2.25E	00	1.33E	01	1.87E	01	3.05E	00	3.74E	01	
86	2.20	0.	2.03E-01	0.	0.	0.	0.	2.24E	00	1.52E	01	2.22E	01	3.65E	00	4.35E	01	
87	2.10	0.	2.14E-01	0.	0.	0.	0.	2.23E	00	1.76E	01	2.58E	01	4.25E	00	5.01E	01	
88	2.00	0.	4.21E-01	0.	0.	0.	0.	2.16E	00	2.04E	01	2.94E	01	4.86E	00	5.73E	01	
89	1.90	0.	5.32E-01	0.	0.	0.	0.	2.08E	00	2.39E	01	3.37E	01	5.63E	00	6.58E	01	
90	1.80	0.	4.51E-01	0.	0.	0.	0.	1.99E	00	2.81E	01	4.03E	01	6.84E	00	7.77E	01	
91	1.70	0.	5.17E-01	0.	0.	0.	0.	1.87E	00	3.35E	01	4.84E	01	8.32E	00	9.26E	01	
92	1.60	0.	3.86E-01	0.	0.	0.	0.	1.58E	00	4.03E	01	5.66E	01	9.80E	00	1.09E	02	
93	1.50	0.	4.45E-01	0.	0.	0.	0.	7.20E-01	4.92E	01	7.32E	01	1.19E	01	1.35E	02	0.	0.
94	1.40	0.	4.40E-01	0.	0.	0.	0.	0.	6.04E	01	9.12E	01	1.42E	01	1.67E	02	0.	0.
95	1.30	0.	3.37E-01	0.	0.	0.	0.	0.	7.67E	01	1.21E	02	1.88E	01	2.17E	02	0.	0.
96	1.20	0.	3.22E-01	0.	0.	0.	0.	0.	9.78E	01	1.32E	02	1.89E	01	2.49E	02	0.	0.
97	1.10	0.	3.07E-01	0.	0.	0.	0.	0.	1.27E	02	1.63E	02	2.37E	01	3.15E	02	0.	0.
98	1.00	0.	2.82E-01	0.	0.	0.	0.	0.	1.70E	02	1.98E	02	2.70E	01	3.95E	02	0.	0.
99	0.90	0.	2.32E-01	0.	0.	0.	0.	0.	2.35E	02	2.27E	02	3.17E	01	4.95E	02	0.	0.
100	0.80	0.	1.09E-01	0.	0.	0.	0.	0.	3.39E	02	2.61E	02	3.64E	01	6.37E	02	0.	0.
101	0.70	0.	2.56E-02	0.	0.	0.	0.	0.	5.12E	02	2.84E	02	3.78E	01	8.34E	02	0.	0.
102	0.60	0.	4.78E-03	0.	0.	0.	0.	0.	8.26E	02	3.17E	02	4.23E	01	1.19E	03	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)			DENSITY (GM/CC)			1.293E-03 (1.0E 00 NORMAL)			TOTAL AIR		
PHOTON ENERGY E.V.	O2 S-R CONT.	1/2 R-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FRFE-FREE N P.E.	P.E.	O P.E.		
1 10.70 0.	0.	1.13E-02	0.	0.	0.	1.10E-01	1.12E-02	2.59E 01	1.97E-01	1.97E-01	2.62E 01
2 10.60 0.	0.	1.03E-02	0.	0.	0.	1.10E-01	1.15E-02	8.48E-01	1.97E-01	1.96E-01	1.18E 00
3 10.50 0.	0.	1.05E-02	0.	0.	0.	1.10E-01	1.19E-02	8.52E-01	1.96E-01	1.95E-01	1.18E 00
4 10.40 0.	0.	9.93E-03	0.	0.	0.	1.10E-01	1.22E-02	8.55E-01	1.95E-01	1.94E-01	1.18E 00
5 10.30 0.	0.	8.67E-03	0.	0.	0.	1.10E-01	1.26E-02	8.57E-01	1.94E-01	1.94E-01	1.18E 00
6 10.20 0.	0.	8.97E-03	0.	0.	0.	1.11E-01	1.29E-02	8.59E-01	1.94E-01	1.94E-01	1.18E 00
7 10.10 0.	0.	8.45E-03	0.	0.	0.	1.11E-01	1.33E-02	8.58E-01	1.93E-01	1.93E-01	1.18E 00
8 10.00 0.	0.	7.43E-03	0.	0.	0.	1.11E-01	1.37E-02	8.60E-01	1.92E-01	1.92E-01	1.18E 00
9 9.90 0.	0.	7.63E-03	0.	0.	0.	1.11E-01	1.42E-02	8.62E-01	1.91E-01	1.91E-01	1.19E 00
10 9.80 0.	0.	7.18E-03	0.	0.	0.	1.11E-01	1.46E-02	8.64E-01	1.91E-01	1.91E-01	1.19E 00
11 9.70 0.	0.	6.22E-03	0.	0.	0.	1.11E-01	1.51E-02	8.66E-01	1.90E-01	1.90E-01	1.19E 00
12 9.60 0.	0.	5.72E-03	0.	0.	0.	1.12E-01	1.56E-02	8.68E-01	1.89E-01	1.89E-01	1.19E 00
13 9.50 0.	0.	5.76E-03	0.	0.	0.	1.12E-01	1.61E-02	8.71E-01	1.88E-01	1.88E-01	1.19E 00
14 9.40 0.	0.	5.46E-03	0.	0.	0.	1.12E-01	1.66E-02	8.74E-01	1.87E-01	1.87E-01	1.20E 00
15 9.30 0.	0.	5.60E-03	0.	0.	0.	1.13E-01	1.71E-02	8.76E-01	1.87E-01	1.87E-01	1.20E 00
16 9.20 0.	0.	4.66E-03	0.	0.	0.	1.13E-01	1.77E-02	8.79E-01	1.86E-01	1.86E-01	1.20E 00
17 9.10 0.	0.	4.78E-03	0.	0.	0.	1.13E-01	1.83E-02	3.22E-01	1.85E-01	1.85E-01	6.44E-01
18 9.00 0.	0.	4.36E-03	0.	0.	0.	1.14E-01	1.89E-02	3.22E-01	1.85E-01	1.85E-01	6.44E-01
19 8.90 0.	0.	4.04E-03	0.	0.	0.	1.14E-01	1.96E-02	3.22E-01	1.84E-01	1.84E-01	6.44E-01
20 8.80 0.	0.	3.97E-03	0.	0.	0.	1.15E-01	2.02E-02	3.23E-01	1.83E-01	1.83E-01	6.45E-01
21 8.70 0.	0.	3.46E-03	0.	0.	0.	1.15E-01	2.10E-02	3.23E-01	1.82E-01	1.82E-01	6.45E-01
22 8.60 0.	0.	3.57E-03	0.	0.	0.	1.15E-01	2.17E-02	3.24E-01	1.82E-01	1.82E-01	6.46E-01
23 8.50 0.	0.	3.13E-03	0.	0.	0.	1.16E-01	2.25E-02	3.25E-01	1.81E-01	1.81E-01	6.47E-01
24 8.40 0.	0.	3.12E-03	0.	0.	0.	1.16E-01	2.33E-02	3.26E-01	1.80E-01	1.80E-01	6.49E-01
25 8.30 0.	0.	2.65E-03	0.	0.	0.	1.17E-01	2.42E-02	3.27E-01	1.80E-01	1.80E-01	6.51E-01
26 8.20 0.	0.	2.69E-03	0.	0.	0.	1.18E-01	2.51E-02	3.28E-01	1.81E-01	1.81E-01	6.54E-01
27 8.10 0.	0.	2.33E-03	0.	0.	0.	1.18E-01	2.60E-02	3.29E-01	1.81E-01	1.81E-01	6.56E-01
28 8.00 0.	0.	2.34E-03	0.	0.	0.	1.19E-01	2.70E-02	3.31E-01	1.81E-01	1.81E-01	6.60E-01
29 7.90 0.	0.	2.02E-03	0.	0.	0.	1.20E-01	2.81E-02	3.33E-01	1.82E-01	1.82E-01	6.64E-01
30 7.80 0.	0.	2.10E-03	0.	0.	0.	1.20E-01	2.92E-02	3.35E-01	1.82E-01	1.82E-01	6.68E-01
31 7.70 0.	0.	1.85E-03	0.	0.	0.	1.21E-01	3.03E-02	3.37E-01	1.82E-01	1.82E-01	6.72E-01
32 7.60 0.	0.	1.76E-03	0.	7.85E-08	0.	1.21E-01	3.15E-02	3.39E-01	1.83E-01	1.83E-01	6.76E-01
33 7.50 0.	0.	1.63E-03	0.	2.68E-07	0.	1.22E-01	3.28E-02	3.41E-01	1.83E-01	1.83E-01	6.80E-01
34 7.40 0.	0.	1.47E-03	0.	2.23E-06	0.	1.23E-01	3.42E-02	3.43E-01	1.83E-01	1.83E-01	6.85E-01
35 7.30 0.	0.	1.39E-03	0.	8.85E-06	0.	1.23E-01	3.56E-02	3.45E-01	1.84E-01	1.84E-01	6.89E-01
36 7.20 0.	0.	1.26E-03	0.	2.43E-05	0.	1.24E-01	3.72E-02	3.47E-01	1.84E-01	1.84E-01	6.94E-01
37 7.10 0.	0.	1.21E-03	0.	7.55E-05	0.	1.25E-01	3.88E-02	3.49E-01	1.84E-01	1.84E-01	6.99E-01
38 7.00 0.	0.	1.11E-03	0.	1.51E-04	0.	1.26E-01	4.05E-02	3.51E-01	1.85E-01	1.85E-01	7.04E-01
39 6.90 0.	4.35E-07 0.	1.02E-03	0.	2.09E-04	0.	1.27E-01	4.23E-02	3.53E-01	1.85E-01	1.85E-01	7.09E-01
40 6.80 0.	3.75E-07 0.	9.88E-04	0.	3.63E-04	0.	1.28E-01	4.42E-02	3.55E-01	1.86E-01	1.86E-01	7.15E-01
41 6.70 0.	2.73E-07 0.	8.67E-04	0.	3.61E-04	0.	1.29E-01	4.62E-02	3.57E-01	1.86E-01	1.86E-01	7.20E-01
42 6.60 0.	1.67E-07 0.	7.79E-04	0.	2.95E-04	0.	1.30E-01	4.84E-02	3.61E-01	1.87E-01	1.87E-01	7.27E-01
43 6.50 0.	9.64E-08 0.	6.27E-04	0.	4.34E-04	0.	1.31E-01	5.06E-02	3.64E-01	1.87E-01	1.87E-01	7.35E-01
44 6.40 0.	5.53E-08 0.	4.31E-04	1.49E-06	4.12E-04	0.	1.32E-01	5.31E-02	3.68E-01	1.88E-01	1.88E-01	7.42E-01
45 6.30 0.	3.21E-08 0.	2.70E-04	7.04E-06	2.93E-04	0.	1.33E-01	5.56E-02	3.72E-01	1.89E-01	1.89E-01	7.51E-01
46 6.20 0.	1.45E-08 0.	1.59E-04	1.00E-05	4.02E-04	0.	1.34E-01	5.84E-02	3.76E-01	1.91E-01	1.91E-01	7.60E-01
47 6.10 0.	6.67E-09 0.	7.08E-05	2.86E-05	5.00E-04	0.	1.35E-01	6.13E-02	3.80E-01	1.93E-01	1.93E-01	7.70E-01
48 6.00 0.	2.74E-09 0.	1.80E-05	2.75E-05	2.45E-04	0.	1.36E-01	6.45E-02	3.85E-01	1.94E-01	1.94E-01	7.81E-01
49 5.90 0.	6.86E-10 0.	1.29E-06	4.03E-05	2.39E-04	0.	1.36E-01	6.78E-02	3.91E-01	1.96E-01	1.96E-01	7.92E-01
50 5.80 0.	8.71E-11 0.	3.26E-08	5.64E-05	2.46E-04	0.	1.34E-01	7.14E-02	3.97E-01	1.98E-01	1.98E-01	8.00E-01
1 5.70 0.	6.44E-12 0.	0.	6.62E-05	2.75E-04	0.	1.26E-01	7.53E-02	4.02E-01	2.00E-01	2.00E-01	8.04E-01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 18000.										DENSITY (GM/CC) 1.293E-03 ( 1.0E00 NORMAL)			
PHOTON ENERGY	02 S-R BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO RETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N P.E.	U P.E.	TOTAL AIR	
52	5.60 2.91E-13	0.	0.	0.	5.65E-05	3.65E-04	0.	0.	1.17E-01	7.94E-02	4.03E-01	2.02E-01	8.08E-01
53	5.50 0.	0.	0.	0.	6.90E-05	3.38E-04	0.	0.	1.18E-01	8.39E-02	4.18E-01	2.04E-01	8.24E-01
54	5.40 0.	0.	0.	0.	6.35E-05	2.75E-04	0.	0.	1.18E-01	8.87E-02	4.28E-01	2.06E-01	8.42E-01
55	5.30 0.	0.	0.	0.	6.51E-05	3.48E-04	0.	0.	1.19E-01	9.38E-02	4.40E-01	2.09E-01	8.62E-01
56	5.20 0.	0.	0.	0.	7.02E-05	2.62E-04	0.	0.	1.20E-01	9.94E-02	4.51E-01	2.13E-01	8.84E-01
57	5.10 0.	0.	0.	0.	7.01E-05	3.37E-04	0.	0.	1.21E-01	1.05E-01	4.64E-01	2.17E-01	9.08E-01
58	5.00 3.94E-06	0.	0.	0.	6.41E-05	3.17E-04	0.	0.	1.22E-01	1.12E-01	4.79E-01	2.20E-01	9.34E-01
59	4.90 9.71E-06	0.	0.	0.	7.15E-05	3.46E-04	0.	0.	1.23E-01	1.19E-01	4.95E-01	2.24E-01	9.62E-01
60	4.80 1.82E-05	0.	0.	0.	7.69E-05	3.25E-04	0.	0.	1.24E-01	1.27E-01	5.13E-01	2.29E-01	9.93E-01
61	4.70 2.46E-05	0.	0.	0.	7.69E-05	2.95E-04	0.	0.	1.25E-01	1.35E-01	5.31E-01	2.35E-01	1.03E 00
62	4.60 3.40E-05	0.	0.	0.	7.91E-05	2.68E-04	0.	0.	1.26E-01	1.44E-01	5.53E-01	2.41E-01	1.07E 00
63	4.50 3.51E-05	0.	9.29E-05	0.	7.26E-05	2.02E-04	0.	0.	1.27E-01	1.54E-01	5.81E-01	2.48E-01	1.11E 00
64	4.40 3.83E-05	0.	2.78E-04	0.	7.29E-05	1.39E-04	0.	0.	1.28E-01	1.65E-01	6.09E-01	2.54E-01	1.16E 00
65	4.30 3.62E-05	0.	9.13E-04	0.	6.97E-05	8.71E-05	0.	0.	1.29E-01	1.77E-01	6.40E-01	2.61E-01	1.21E 00
66	4.20 3.39E-05	0.	2.92E-03	0.	7.34E-05	6.11E-05	0.	0.	1.30E-01	1.90E-01	6.71E-01	2.68E-01	1.26E 00
67	4.10 3.18E-05	0.	1.28E-03	0.	7.19E-05	1.70E-05	0.	0.	1.31E-01	2.04E-01	7.02E-01	2.69E-01	1.31E 00
68	4.00 2.94E-05	0.	4.21E-03	0.	6.95E-05	1.28E-05	0.	0.	1.31E-01	2.20E-01	7.34E-01	1.14E-01	1.20E 00
69	3.90 2.55E-05	0.	1.97E-03	4.41E-04	6.43E-05	4.87E-06	0.	0.	1.31E-01	2.38E-01	7.15E-01	1.18E-01	1.20E 00
70	3.80 2.75E-05	0.	3.15E-03	1.87E-03	6.92E-05	0.	0.	0.	1.30E-01	2.57E-01	7.25E-01	1.23E-01	1.24E 00
71	3.70 2.45E-05	0.	3.29E-03	7.94E-04	5.92E-05	0.	0.	0.	1.28E-01	2.79E-01	5.97E-01	1.35E-01	1.14E 00
72	3.60 2.21E-05	0.	2.32E-03	4.22E-03	6.40E-05	0.	0.	0.	1.20E-01	3.03E-01	6.45E-01	1.48E-01	1.22E 00
73	3.50 2.07E-05	0.	3.07E-03	8.09E-03	5.07E-05	0.	0.	0.	1.10E-01	3.30E-01	6.83E-01	1.62E-01	1.30E 00
74	3.40 1.90E-05	0.	1.96E-03	1.22E-03	5.69E-05	0.	0.	0.	6.34E-02	3.60E-01	7.59E-01	1.79E-01	1.37E 00
75	3.30 1.53E-05	0.	2.01E-03	4.71E-03	4.56E-05	0.	0.	0.	6.35E-02	3.94E-01	8.38E-01	1.96E-01	1.50E 00
76	3.20 1.33E-05	0.	1.32E-03	7.85E-03	4.79E-05	0.	0.	0.	6.36E-02	4.33E-01	9.18E-01	2.14E-01	1.64E 00
77	3.10 1.28E-05	0.	1.02E-03	1.93E-03	4.55E-05	0.	0.	0.	6.37E-02	4.77E-01	1.10E-01	2.32E-01	1.78E 00
78	3.00 1.15E-05	0.	6.30E-04	4.50E-03	4.30E-05	0.	0.	0.	6.39E-02	5.27E-01	1.08E 00	2.49E-01	1.93E 00
79	2.90 9.70E-06	0.	3.94E-04	2.47E-03	3.29E-05	0.	0.	0.	6.40E-02	5.84E-01	1.17E 00	2.69E-01	2.09E 00
80	2.80 1.01E-05	0.	1.90E-04	1.60E-03	2.29E-05	0.	0.	0.	6.41E-02	6.51E-01	1.27E 00	2.91E-01	2.28E 00
81	2.70 6.55E-06	0.	8.90E-05	2.13E-03	1.26E-05	0.	0.	0.	6.41E-02	7.27E-01	1.38E 00	3.15E-01	2.49E 00
82	2.60 3.10E-06	0.	4.33E-05	2.17E-04	5.57E-06	0.	0.	0.	6.41E-02	8.16E-01	1.50E 00	3.40E-01	2.72E 00
83	2.50 2.18E-07	0.	4.62E-06	2.09E-04	1.33E-06	0.	0.	0.	6.41E-02	9.19E-01	1.71E 00	2.05E-01	2.90E 00
84	2.40 0.	2.11E-04	0.	1.67E-04	1.42E-07	0.	0.	0.	6.41E-02	1.04E 00	1.99E 00	2.41E-01	3.34E 00
85	2.30 0.	6.50E-04	0.	0.	0.	0.	0.	0.	6.36E-02	1.18E 00	1.71E 00	2.88E-01	3.25E 00
86	2.20 0.	1.70E-03	0.	0.	0.	0.	0.	0.	6.33E-02	1.36E 00	2.02E 00	3.44E-01	3.79E 00
87	2.10 0.	1.79E-03	0.	0.	0.	0.	0.	0.	6.30E-02	1.56E 00	2.36E 00	4.01E-01	4.38E 00
88	2.00 0.	3.51E-03	0.	0.	0.	0.	0.	0.	6.10E-02	1.81E 00	2.69E 00	4.57E-01	5.03E 00
89	1.90 0.	4.44E-03	0.	0.	0.	0.	0.	0.	5.87E-02	2.12E 00	3.08E 00	5.31E-01	5.79E 00
90	1.80 0.	3.76E-03	0.	0.	0.	0.	0.	0.	5.61E-02	2.50E 00	3.68E 00	6.44E-01	6.89E 00
91	1.70 0.	4.31E-03	0.	0.	0.	0.	0.	0.	5.29E-02	2.98E 00	4.42E 00	7.83E-01	8.24E 00
92	1.60 0.	3.22E-03	0.	0.	0.	0.	0.	0.	4.47E-02	3.58E 00	5.17E 00	9.23E-01	9.72E 00
93	1.50 0.	3.71E-03	0.	0.	0.	0.	0.	0.	2.03E-02	4.38E 00	6.68E 00	1.12E 00	1.22E 01
94	1.40 0.	3.67E-03	0.	0.	0.	0.	0.	0.	0.	5.42E 00	8.33E 00	1.34E 00	1.51E 01
95	1.30 0.	2.81E-03	0.	0.	0.	0.	0.	0.	0.	6.82E 00	1.10E 01	1.77E 00	1.96E 01
96	1.20 0.	2.69E-03	0.	0.	0.	0.	0.	0.	0.	8.70E 00	1.21E 01	1.78E 00	2.26E 01
97	1.10 0.	2.56E-03	0.	0.	0.	0.	3.47E-09	0.	0.	1.13E 01	1.49E 01	2.23E 00	2.85E 01
98	1.00 0.	2.35E-03	0.	0.	0.	0.	5.18E-08	0.	0.	1.51E 01	1.81E 01	2.54E 00	3.57E 01
99	0.90 0.	1.93E-03	0.	0.	0.	0.	5.99E-08	0.	0.	2.09E 01	2.07E 01	2.98E 00	4.47E 01
100	0.80 0.	9.08E-04	0.	0.	0.	0.	1.30E-08	0.	0.	3.01E 01	2.39E 01	3.43E 00	5.74E 01
101	0.70 0.	2.14E-04	0.	0.	0.	0.	1.17E-06	0.	0.	4.55E 01	2.59E 01	3.56E 00	7.50E 01
102	0.60 0.	3.99E-05	0.	0.	0.	0.	3.82E-06	0.	0.	7.34E 01	2.90E 01	3.98E 00	1.06E 02

TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	1.293E-04 (1.0E-01 NORMAL)
18000.		

[illegible]

# ADSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		18000.		DENSITY (GM/CC)		1.293E-04 (1.0E-01 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON U2 S-R	N2	N2	N2+	1ST NEG.	BETA	GAMMA	NO	NO	NO	2	PHOTO-DET (IUNS)	P.E.	O	P.E.	
ENERGY BANDS	1ST POS.	2ND POS.	1ST POS.	1ST NEG.	BETA	GAMMA	NO	NO	NO	2	PHOTO-DET (IUNS)	P.E.	O	P.E.	
52	5.60	1.76E-15	0.	0.	3.05E-07	1.97E-06	0.	0.	0.	0.	2.42E-03	5.59E-03	2.84E-02	1.57E-02	5.21E-02
53	5.50	0.	0.	0.	3.73E-07	1.83E-06	0.	0.	0.	0.	2.43E-03	5.90E-03	2.90E-02	1.58E-02	5.32E-02
54	5.40	0.	0.	0.	3.43E-07	1.49E-06	0.	0.	0.	0.	2.45E-03	6.24E-03	2.97E-02	1.60E-02	5.45E-02
55	5.30	0.	0.	0.	3.52E-07	1.88E-06	0.	0.	0.	0.	2.46E-03	6.60E-03	3.05E-02	1.63E-02	5.59E-02
56	5.20	0.	0.	0.	3.79E-07	1.42E-06	0.	0.	0.	0.	2.48E-03	6.99E-03	3.13E-02	1.66E-02	5.73E-02
57	5.10	0.	0.	0.	3.78E-07	1.82E-06	0.	0.	0.	0.	2.50E-03	7.42E-03	3.22E-02	1.69E-02	5.90E-02
58	5.00	2.42E-08	0.	0.	3.46E-07	1.71E-06	0.	0.	0.	0.	2.52E-03	7.88E-03	3.32E-02	1.71E-02	6.08E-02
59	4.90	5.89E-08	0.	0.	3.86E-07	1.87E-06	0.	0.	0.	0.	2.54E-03	8.37E-03	3.44E-02	1.75E-02	6.27E-02
60	4.80	1.1E-07	0.	0.	4.15E-07	1.75E-06	0.	0.	0.	0.	2.56E-03	8.91E-03	3.56E-02	1.78E-02	6.49E-02
61	4.70	1.49E-07	0.	0.	4.16E-07	1.59E-06	0.	0.	0.	0.	2.58E-03	9.50E-03	3.69E-02	1.83E-02	6.73E-02
62	4.60	2.06E-07	0.	0.	4.27E-07	1.45E-06	0.	0.	0.	0.	2.60E-03	1.01E-02	3.84E-02	1.88E-02	6.99E-02
63	4.50	2.17E-07	0.	4.48E-07	3.92E-07	1.09E-06	0.	0.	0.	0.	2.63E-03	1.08E-02	4.03E-02	1.93E-02	7.30E-02
64	4.40	2.32E-07	0.	1.34E-06	3.94E-07	7.50E-07	0.	0.	0.	0.	2.65E-03	1.16E-02	4.22E-02	1.98E-02	7.63E-02
65	4.30	2.20E-07	0.	4.40E-06	3.76E-07	4.71E-07	0.	0.	0.	0.	2.67E-03	1.24E-02	4.44E-02	2.03E-02	7.98E-02
66	4.20	2.05E-07	0.	1.40E-05	3.96E-07	3.30E-07	0.	0.	0.	0.	2.69E-03	1.34E-02	4.66E-02	2.09E-02	8.35E-02
67	4.10	1.93E-07	0.	6.16E-06	3.88E-07	9.19E-08	0.	0.	0.	0.	2.70E-03	1.44E-02	4.87E-02	2.09E-02	8.67E-02
68	4.00	1.78E-07	0.	2.03E-05	3.75E-07	6.93E-08	0.	0.	0.	0.	2.71E-03	1.55E-02	5.09E-02	8.89E-03	7.80E-02
69	3.90	1.52E-07	0.	9.49E-06	3.47E-07	2.63E-08	0.	0.	0.	0.	2.70E-03	1.67E-02	4.96E-02	9.17E-03	7.82E-02
70	3.80	1.67E-07	0.	1.51E-05	3.39E-05	3.74E-07	0.	0.	0.	0.	2.69E-03	1.81E-02	5.03E-02	9.56E-03	8.07E-02
71	3.70	1.48E-07	0.	1.58E-05	1.44E-05	3.20E-07	0.	0.	0.	0.	2.65E-03	1.96E-02	4.15E-02	1.05E-02	7.42E-02
72	3.60	1.34E-07	0.	1.12E-05	7.66E-05	3.46E-07	0.	0.	0.	0.	2.48E-03	2.13E-02	4.48E-02	1.15E-02	8.01E-02
73	3.50	1.26E-07	0.	1.48E-05	1.47E-04	2.74E-07	0.	0.	0.	0.	2.27E-03	2.32E-02	4.74E-02	1.26E-02	8.57E-02
74	3.40	1.15E-07	0.	9.42E-06	2.21E-05	3.07E-07	0.	0.	0.	0.	1.31E-03	2.53E-02	5.27E-02	1.39E-02	9.33E-02
75	3.30	9.25E-08	0.	9.66E-06	8.55E-05	2.46E-07	0.	0.	0.	0.	1.31E-03	2.77E-02	5.82E-02	1.53E-02	1.03E-01
76	3.20	8.08E-08	0.	6.35E-06	1.42E-04	2.59E-07	0.	0.	0.	0.	1.31E-03	3.05E-02	6.37E-02	1.66E-02	1.12E-01
77	3.10	7.76E-08	0.	4.94E-06	3.50E-05	2.46E-07	0.	0.	0.	0.	1.32E-03	3.36E-02	6.94E-02	1.80E-02	1.22E-01
78	3.00	6.97E-08	0.	3.03E-06	8.16E-05	2.32E-07	0.	0.	0.	0.	1.32E-03	3.71E-02	7.51E-02	1.94E-02	1.33E-01
79	2.90	5.88E-08	0.	1.90E-06	4.49E-05	1.78E-07	0.	0.	0.	0.	1.32E-03	4.11E-02	8.12E-02	2.09E-02	1.45E-01
80	2.80	6.13E-08	0.	9.15E-07	2.90E-05	1.24E-07	0.	0.	0.	0.	1.32E-03	4.58E-02	8.82E-02	2.26E-02	1.58E-01
81	2.70	3.97E-08	0.	4.29E-07	3.87E-05	6.80E-08	0.	0.	0.	0.	1.32E-03	5.11E-02	9.58E-02	2.45E-02	1.73E-01
82	2.60	1.88E-08	0.	2.08E-07	3.93E-06	3.01E-08	0.	0.	0.	0.	1.32E-03	5.74E-02	1.04E-01	2.64E-02	1.89E-01
83	2.50	1.32E-09	0.	2.23E-08	3.79E-06	7.19E-09	0.	0.	0.	0.	1.32E-03	6.46E-02	1.19E-01	1.59E-02	2.00E-01
84	2.40	0.	1.02E-06	0.	3.04E-06	7.6E-10	0.	0.	0.	0.	1.32E-03	7.32E-02	1.38E-01	1.87E-02	2.31E-01
85	2.30	0.	3.13E-06	0.	0.	0.	0.	0.	0.	0.	1.31E-03	8.33E-02	1.19E-01	2.24E-02	2.26E-01
86	2.20	0.	8.17E-06	0.	0.	0.	0.	0.	0.	0.	1.31E-03	9.54E-02	1.40E-01	2.68E-02	2.64E-01
87	2.10	0.	8.60E-06	0.	0.	0.	0.	0.	0.	0.	1.30E-03	1.10E-01	1.63E-01	3.12E-02	3.06E-01
88	2.00	0.	1.69E-05	0.	0.	0.	0.	0.	0.	0.	1.26E-03	1.28E-01	1.87E-01	3.56E-02	3.51E-01
89	1.90	0.	2.14E-05	0.	0.	0.	0.	0.	0.	0.	1.21E-03	1.49E-01	2.13E-01	4.13E-02	4.05E-01
90	1.80	0.	1.81E-05	0.	0.	0.	0.	0.	0.	0.	1.16E-03	1.76E-01	2.55E-01	5.01E-02	4.83E-01
91	1.70	0.	2.08E-05	0.	0.	0.	0.	0.	0.	0.	1.09E-03	2.09E-01	3.07E-01	6.10E-02	5.78E-01
92	1.60	0.	1.55E-05	0.	0.	0.	0.	0.	0.	0.	9.24E-04	2.52E-01	3.58E-01	7.18E-02	6.83E-01
93	1.50	0.	1.79E-05	0.	0.	0.	0.	0.	0.	0.	4.20E-04	3.08E-01	4.64E-01	8.72E-02	8.59E-01
94	1.40	0.	1.77E-05	0.	0.	0.	0.	0.	0.	0.	0.	3.81E-01	5.78E-01	1.04E-01	1.06E-01
95	1.30	0.	1.35E-05	0.	0.	0.	0.	0.	0.	0.	0.	4.80E-01	7.66E-01	1.38E-01	1.38E-01
96	1.20	0.	1.29E-05	0.	0.	0.	0.	0.	0.	0.	0.	6.12E-01	8.38E-01	1.38E-01	1.59E-01
97	1.10	0.	1.23E-05	0.	0.	0.	0.	0.	0.	0.	0.	7.97E-01	1.03E-01	1.74E-01	2.00E-01
98	1.00	0.	1.13E-05	0.	0.	0.	0.	0.	0.	0.	0.	1.06E-01	1.25E-01	1.98E-01	2.52E-01
99	0.90	0.	9.30E-06	0.	0.	0.	0.	0.	0.	0.	0.	1.47E-01	1.44E-01	2.32E-01	3.14E-01
100	0.80	0.	4.37E-06	0.	0.	0.	0.	0.	0.	0.	0.	2.12E-01	1.66E-01	2.67E-01	4.04E-01
101	0.70	0.	1.03E-06	0.	0.	0.	0.	0.	0.	0.	0.	3.20E-01	1.80E-01	2.77E-01	5.28E-01
102	0.60	0.	1.92E-07	0.	0.	0.	0.	0.	0.	0.	0.	5.17E-01	2.01E-01	3.10E-01	7.49E-01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		18000.		DENSITY (GM/CC)		1.293E-05		(10.0E-03 NORMAL)		FREE-FREE		N		O		TOTAL AIR	
PHOTON U2 S-R		O2 S-R		N2 H-H		NO		NO		PHOTO-DET (IONS)		P.E.		P.E.		P.E.	
ENERGY BANDS		CONT.		NO. 1		BETA		GAMMA		2		P.E.		P.E.		P.E.	
E.V.																	
1	10.70	0.	0.	7.28E-08	0.	0.	0.	0.	0.	1.95E-05	2.97E-05	6.56E-02	6.80E-04	6.63E-02	6.80E-04	6.63E-02	6.80E-04
2	10.60	0.	0.	6.63E-08	0.	0.	0.	0.	0.	1.95E-05	3.06E-05	2.16E-03	6.77E-04	2.89E-03	6.77E-04	2.89E-03	6.77E-04
3	10.50	0.	0.	6.70E-08	0.	0.	0.	0.	0.	1.95E-05	3.15E-05	2.17E-03	6.75E-04	2.89E-03	6.75E-04	2.89E-03	6.75E-04
4	10.40	0.	0.	6.37E-08	0.	0.	0.	0.	0.	1.95E-05	3.24E-05	2.18E-03	6.72E-04	2.90E-03	6.72E-04	2.90E-03	6.72E-04
5	10.30	0.	0.	5.56E-08	0.	0.	0.	0.	0.	1.96E-05	3.34E-05	2.18E-03	6.69E-04	2.90E-03	6.69E-04	2.90E-03	6.69E-04
6	10.20	0.	0.	5.75E-08	0.	0.	0.	0.	0.	1.96E-05	3.44E-05	2.19E-03	6.67E-04	2.91E-03	6.67E-04	2.91E-03	6.67E-04
7	10.10	0.	0.	5.42E-08	0.	0.	0.	0.	0.	1.96E-05	3.54E-05	2.19E-03	6.64E-04	2.91E-03	6.64E-04	2.91E-03	6.64E-04
8	10.00	0.	0.	4.77E-08	0.	0.	0.	0.	0.	1.97E-05	3.65E-05	2.18E-03	6.61E-04	2.90E-03	6.61E-04	2.90E-03	6.61E-04
9	9.90	0.	0.	4.89E-08	0.	0.	0.	0.	0.	1.97E-05	3.76E-05	2.19E-03	6.59E-04	2.90E-03	6.59E-04	2.90E-03	6.59E-04
10	9.80	0.	0.	4.61E-08	0.	0.	0.	0.	0.	1.97E-05	3.88E-05	2.19E-03	6.56E-04	2.91E-03	6.56E-04	2.91E-03	6.56E-04
11	9.70	0.	0.	3.99E-08	0.	0.	0.	0.	0.	1.98E-05	4.00E-05	2.20E-03	6.53E-04	2.91E-03	6.53E-04	2.91E-03	6.53E-04
12	9.60	0.	0.	4.31E-08	0.	0.	0.	0.	0.	1.98E-05	4.13E-05	2.20E-03	6.51E-04	2.91E-03	6.51E-04	2.91E-03	6.51E-04
13	9.50	0.	0.	3.70E-08	0.	0.	0.	0.	0.	1.98E-05	4.26E-05	2.21E-03	6.48E-04	2.92E-03	6.48E-04	2.92E-03	6.48E-04
14	9.40	0.	0.	3.50E-08	0.	0.	0.	0.	0.	1.99E-05	4.40E-05	2.22E-03	6.45E-04	2.92E-03	6.45E-04	2.92E-03	6.45E-04
15	9.30	0.	0.	3.59E-08	0.	0.	0.	0.	0.	2.00E-05	4.55E-05	2.22E-03	6.43E-04	2.93E-03	6.43E-04	2.93E-03	6.43E-04
16	9.20	0.	0.	2.99E-08	0.	0.	0.	0.	0.	2.00E-05	4.70E-05	2.23E-03	6.40E-04	2.94E-03	6.40E-04	2.94E-03	6.40E-04
17	9.10	0.	0.	3.07E-08	0.	0.	0.	0.	0.	2.01E-05	4.85E-05	8.18E-04	6.38E-04	1.52E-03	6.38E-04	1.52E-03	6.38E-04
18	9.00	0.	0.	2.80E-08	0.	0.	0.	0.	0.	2.02E-05	5.02E-05	8.19E-04	6.35E-04	1.52E-03	6.35E-04	1.52E-03	6.35E-04
19	8.90	0.	0.	2.59E-08	0.	0.	0.	0.	0.	2.03E-05	5.19E-05	8.19E-04	6.33E-04	1.52E-03	6.33E-04	1.52E-03	6.33E-04
20	8.80	0.	0.	2.55E-08	0.	0.	0.	0.	0.	2.03E-05	5.37E-05	8.21E-04	6.30E-04	1.53E-03	6.30E-04	1.53E-03	6.30E-04
21	8.70	0.	0.	2.22E-08	0.	0.	0.	0.	0.	2.04E-05	5.56E-05	8.22E-04	6.28E-04	1.53E-03	6.28E-04	1.53E-03	6.28E-04
22	8.60	0.	0.	2.29E-08	0.	0.	0.	0.	0.	2.05E-05	5.76E-05	8.23E-04	6.26E-04	1.53E-03	6.26E-04	1.53E-03	6.26E-04
23	8.50	0.	0.	2.01E-08	0.	0.	0.	0.	0.	2.06E-05	5.97E-05	8.25E-04	6.23E-04	1.53E-03	6.23E-04	1.53E-03	6.23E-04
24	8.40	0.	0.	2.00E-08	0.	0.	0.	0.	0.	2.07E-05	6.18E-05	8.28E-04	6.21E-04	1.53E-03	6.21E-04	1.53E-03	6.21E-04
25	8.30	0.	0.	1.70E-08	0.	0.	0.	0.	0.	2.08E-05	6.41E-05	8.31E-04	6.20E-04	1.54E-03	6.20E-04	1.54E-03	6.20E-04
26	8.20	0.	0.	1.72E-08	0.	0.	0.	0.	0.	2.09E-05	6.65E-05	8.34E-04	6.22E-04	1.54E-03	6.22E-04	1.54E-03	6.22E-04
27	8.10	0.	0.	1.49E-08	0.	0.	0.	0.	0.	2.10E-05	6.90E-05	8.36E-04	6.23E-04	1.55E-03	6.23E-04	1.55E-03	6.23E-04
28	8.00	0.	0.	1.50E-08	0.	0.	0.	0.	0.	2.11E-05	7.17E-05	8.40E-04	6.24E-04	1.56E-03	6.24E-04	1.56E-03	6.24E-04
29	7.90	0.	0.	1.30E-08	0.	0.	0.	0.	0.	2.12E-05	7.44E-05	8.45E-04	6.25E-04	1.57E-03	6.25E-04	1.57E-03	6.25E-04
30	7.80	0.	0.	1.35E-08	0.	0.	0.	0.	0.	2.13E-05	7.74E-05	8.51E-04	6.26E-04	1.58E-03	6.26E-04	1.58E-03	6.26E-04
31	7.70	0.	0.	1.18E-08	0.	0.	0.	0.	0.	2.14E-05	8.05E-05	8.56E-04	6.28E-04	1.59E-03	6.28E-04	1.59E-03	6.28E-04
32	7.60	0.	0.	1.13E-08	0.	0.	0.	6.84E-13	0.	2.15E-05	8.37E-05	8.61E-04	6.29E-04	1.60E-03	6.29E-04	1.60E-03	6.29E-04
33	7.50	0.	0.	1.05E-08	0.	0.	0.	2.34E-12	0.	2.16E-05	8.71E-05	8.65E-04	6.30E-04	1.60E-03	6.30E-04	1.60E-03	6.30E-04
34	7.40	0.	0.	9.41E-09	0.	0.	0.	1.94E-11	0.	2.18E-05	9.08E-05	8.70E-04	6.31E-04	1.61E-03	6.31E-04	1.61E-03	6.31E-04
35	7.30	0.	0.	8.93E-09	0.	0.	0.	7.72E-11	0.	2.19E-05	9.46E-05	8.76E-04	6.32E-04	1.62E-03	6.32E-04	1.62E-03	6.32E-04
36	7.20	0.	0.	8.08E-09	0.	0.	0.	2.12E-10	0.	2.20E-05	9.86E-05	8.81E-04	6.34E-04	1.64E-03	6.34E-04	1.64E-03	6.34E-04
37	7.10	0.	0.	7.78E-09	0.	0.	0.	6.58E-10	0.	2.22E-05	1.03E-04	8.86E-04	6.35E-04	1.65E-03	6.35E-04	1.65E-03	6.35E-04
38	7.00	2.64E-12	0.	7.15E-09	0.	0.	0.	1.31E-09	0.	2.24E-05	1.07E-04	8.92E-04	6.36E-04	1.66E-03	6.36E-04	1.66E-03	6.36E-04
39	6.90	5.15E-12	0.	6.57E-09	0.	0.	0.	1.82E-09	0.	2.25E-05	1.12E-04	8.97E-04	6.37E-04	1.67E-03	6.37E-04	1.67E-03	6.37E-04
40	6.80	4.45E-12	0.	6.34E-09	0.	0.	0.	3.16E-09	0.	2.27E-05	1.17E-04	9.03E-04	6.39E-04	1.68E-03	6.39E-04	1.68E-03	6.39E-04
41	6.70	3.24E-12	0.	5.56E-09	0.	0.	0.	3.15E-09	0.	2.29E-05	1.23E-04	9.08E-04	6.41E-04	1.69E-03	6.41E-04	1.69E-03	6.41E-04
42	6.60	1.94E-12	0.	5.00E-09	0.	0.	0.	2.57E-09	0.	2.31E-05	1.28E-04	9.16E-04	6.43E-04	1.71E-03	6.43E-04	1.71E-03	6.43E-04
43	6.50	1.14E-12	0.	3.99E-09	0.	0.	0.	3.80E-09	0.	2.33E-05	1.34E-04	9.26E-04	6.45E-04	1.73E-03	6.45E-04	1.73E-03	6.45E-04
44	6.40	6.55E-13	0.	2.77E-09	0.	0.	0.	1.30E-11	0.	2.34E-05	1.41E-04	9.35E-04	6.48E-04	1.75E-03	6.48E-04	1.75E-03	6.48E-04
45	6.30	3.81E-13	0.	1.73E-09	0.	0.	0.	6.14E-11	0.	2.36E-05	1.48E-04	9.45E-04	6.51E-04	1.77E-03	6.51E-04	1.77E-03	6.51E-04
46	6.20	1.72E-13	0.	9.64E-10	0.	0.	0.	8.73E-11	0.	2.38E-05	1.55E-04	9.55E-04	6.57E-04	1.79E-03	6.57E-04	1.79E-03	6.57E-04
47	6.10	7.91E-14	0.	4.54E-10	0.	0.	0.	2.49E-10	0.	2.40E-05	1.63E-04	9.66E-04	6.63E-04	1.82E-03	6.63E-04	1.82E-03	6.63E-04
48	6.00	3.30E-14	0.	1.16E-10	0.	0.	0.	2.40E-10	0.	2.42E-05	1.71E-04	9.79E-04	6.69E-04	1.84E-03	6.69E-04	1.84E-03	6.69E-04
49	5.90	8.13E-15	0.	8.28E-12	0.	0.	0.	3.52E-10	0.	2.42E-05	1.80E-04	9.94E-04	6.75E-04	1.87E-03	6.75E-04	1.87E-03	6.75E-04
50	5.80	1.04E-15	0.	2.09E-13	0.	0.	0.	4.92E-10	0.	2.38E-05	1.90E-04	1.01E-03	6.81E-04	1.90E-03	6.81E-04	1.90E-03	6.81E-04
51	5.70	7.64E-17	0.	0.	0.	0.	0.	5.77E-10	0.	2.24E-05	2.00E-04	1.02E-03	6.87E-04	1.93E-03	6.87E-04	1.93E-03	6.87E-04



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR	
1ST POS.		2ND POS.		1ST NEG.		2ND NEG.		3RD NEG.		4TH NEG.		5TH NEG.	
52		53		54		55		56		57		58	
5.60	3.45E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5.00	4.7E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4.90	1.15E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4.80	2.16E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4.70	2.92E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4.60	4.03E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4.50	4.24E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4.40	4.54E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4.30	4.30E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4.20	4.02E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4.10	3.77E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4.00	3.49E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3.90	2.97E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3.80	3.26E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3.70	2.90E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3.60	2.62E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3.50	2.46E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3.40	2.26E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3.30	1.81E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3.20	1.58E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3.10	1.52E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3.00	1.36E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2.90	1.15E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2.80	1.20E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2.70	1.76E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2.60	3.68E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2.50	2.59E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2.40	0.	1.35E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2.30	0.	4.17E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2.20	0.	1.59E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2.10	0.	1.15E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2.00	0.	2.25E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.90	0.	2.85E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.80	0.	2.41E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.70	0.	2.77E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.60	0.	2.07E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.50	0.	2.38E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.40	0.	2.35E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.30	0.	1.80E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.20	0.	1.72E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.10	0.	1.64E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.00	0.	1.51E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.90	0.	1.24E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.80	0.	5.42E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.70	0.	1.47E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.60	0.	2.56E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TEMPERATURE (DEGREES K) 18000.  
DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON D2 S-R ENERGY BANDS		N2 1ST PUS.	N2 2ND PUS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NU 2	PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
		TEMPERATURE (DEGREES K) 18000. DENSITY (GM/CC) 1.293E-06 (1.0.E-04 NORMAL)											
52	5.60 1.02E-21 0.	0.	0.	0.	1.30E-13 8.40E-13 0.	0.	0.	0.	4.48E-08 3.32E-06 1.64E-05	1.19E-05	1.19E-05	3.17E-05	
53	5.50 0. 0.	0.	0.	0.	1.59E-13 7.79E-13 0.	0.	0.	0.	4.50E-08 3.51E-06 1.68E-05	1.20E-05	1.20E-05	3.24E-05	
54	5.40 0. 0.	0.	0.	0.	1.46E-13 6.33E-13 0.	0.	0.	0.	4.52E-08 3.71E-06 1.72E-05	1.22E-05	1.22E-05	3.32E-05	
55	5.30 0. 0.	0.	0.	0.	1.50E-13 8.00E-13 0.	0.	0.	0.	4.55E-08 3.92E-06 1.77E-05	1.24E-05	1.24E-05	3.40E-05	
56	5.20 0. 0.	0.	0.	0.	1.62E-13 6.04E-13 0.	0.	0.	0.	4.58E-08 4.15E-06 1.77E-05	1.26E-05	1.26E-05	3.45E-05	
57	5.10 0. 0.	0.	0.	0.	1.61E-13 7.76E-13 0.	0.	0.	0.	4.62E-08 4.41E-06 1.82E-05	1.28E-05	1.28E-05	3.55E-05	
58	5.00 1.37E-14 0.	0.	0.	0.	1.65E-13 7.96E-13 0.	0.	0.	0.	4.66E-08 4.68E-06 1.88E-05	1.30E-05	1.30E-05	3.66E-05	
59	4.90 3.39E-14 0.	0.	0.	0.	1.77E-13 7.48E-13 0.	0.	0.	0.	4.70E-08 4.97E-06 1.95E-05	1.33E-05	1.33E-05	3.77E-05	
60	4.80 6.36E-14 0.	0.	0.	0.	1.77E-13 7.48E-13 0.	0.	0.	0.	4.74E-08 5.30E-06 2.02E-05	1.35E-05	1.35E-05	3.91E-05	
61	4.70 8.67E-14 0.	0.	0.	0.	1.77E-13 6.80E-13 0.	0.	0.	0.	4.78E-08 5.65E-06 2.09E-05	1.39E-05	1.39E-05	4.05E-05	
62	4.60 1.19E-13 0.	0.	0.	0.	1.62E-13 6.17E-13 0.	0.	0.	0.	4.81E-08 6.03E-06 2.18E-05	1.43E-05	1.43E-05	4.21E-05	
63	4.50 1.25E-13 0.	0.	0.	0.	1.67E-13 4.65E-13 0.	0.	0.	0.	4.85E-08 6.44E-06 2.28E-05	1.46E-05	1.46E-05	4.40E-05	
64	4.40 1.34E-13 0.	0.	0.	0.	1.68E-13 3.20E-13 0.	0.	0.	0.	4.89E-08 6.90E-06 2.40E-05	1.50E-05	1.50E-05	4.59E-05	
65	4.30 1.27E-13 0.	0.	0.	0.	1.60E-13 2.01E-13 0.	0.	0.	0.	4.93E-08 7.39E-06 2.52E-05	1.54E-05	1.54E-05	4.81E-05	
66	4.20 1.18E-13 0.	0.	0.	0.	1.69E-13 1.41E-13 0.	0.	0.	0.	4.97E-08 7.94E-06 2.64E-05	1.58E-05	1.58E-05	5.03E-05	
67	4.10 1.11E-13 0.	0.	0.	0.	1.66E-13 3.92E-14 0.	0.	0.	0.	4.99E-08 8.54E-06 2.77E-05	1.59E-05	1.59E-05	5.21E-05	
68	4.00 1.03E-13 0.	0.	0.	0.	1.60E-13 2.95E-14 0.	0.	0.	0.	5.01E-08 9.21E-06 2.89E-05	1.66E-05	1.66E-05	5.49E-05	
69	3.90 8.74E-14 0.	0.	0.	0.	1.48E-13 1.12E-14 0.	0.	0.	0.	4.99E-08 9.94E-06 2.79E-05	1.69E-05	1.69E-05	5.77E-05	
70	3.80 9.59E-14 0.	0.	0.	0.	1.59E-13 0. 0.	0.	0.	0.	4.97E-08 1.08E-05 2.26E-05	1.72E-05	1.72E-05	6.05E-05	
71	3.70 8.55E-14 0.	0.	0.	0.	1.36E-13 0. 0.	0.	0.	0.	4.89E-08 1.17E-05 2.36E-05	1.76E-05	1.76E-05	6.33E-05	
72	3.60 7.73E-14 0.	0.	0.	0.	1.47E-13 0. 0.	0.	0.	0.	4.58E-08 1.27E-05 2.55E-05	1.83E-05	1.83E-05	6.70E-05	
73	3.50 7.23E-14 0.	0.	0.	0.	1.17E-13 0. 0.	0.	0.	0.	4.19E-08 1.38E-05 2.70E-05	1.90E-05	1.90E-05	7.08E-05	
74	3.40 6.65E-14 0.	0.	0.	0.	1.31E-13 0. 0.	0.	0.	0.	2.42E-08 1.51E-05 3.00E-05	2.06E-05	2.06E-05	7.46E-05	
75	3.30 5.33E-14 0.	0.	0.	0.	1.05E-13 0. 0.	0.	0.	0.	2.42E-08 1.65E-05 3.31E-05	2.22E-05	2.22E-05	7.84E-05	
76	3.20 4.65E-14 0.	0.	0.	0.	1.10E-13 0. 0.	0.	0.	0.	2.43E-08 1.81E-05 3.62E-05	2.38E-05	2.38E-05	8.22E-05	
77	3.10 4.47E-14 0.	0.	0.	0.	1.05E-13 0. 0.	0.	0.	0.	2.43E-08 1.99E-05 3.94E-05	2.54E-05	2.54E-05	8.60E-05	
78	3.00 4.02E-14 0.	0.	0.	0.	9.90E-14 0. 0.	0.	0.	0.	2.44E-08 2.20E-05 4.27E-05	2.70E-05	2.70E-05	8.98E-05	
79	2.90 3.39E-14 0.	0.	0.	0.	7.58E-14 0. 0.	0.	0.	0.	2.44E-08 2.44E-05 4.61E-05	2.86E-05	2.86E-05	9.36E-05	
80	2.80 3.53E-14 0.	0.	0.	0.	5.28E-14 0. 0.	0.	0.	0.	2.45E-08 2.72E-05 5.01E-05	3.02E-05	3.02E-05	9.74E-05	
81	2.70 2.29E-14 0.	0.	0.	0.	2.90E-14 0. 0.	0.	0.	0.	2.45E-08 3.04E-05 5.44E-05	3.18E-05	3.18E-05	1.01E-04	
82	2.60 1.08E-14 0.	0.	0.	0.	1.28E-14 0. 0.	0.	0.	0.	2.45E-08 3.41E-05 5.86E-05	3.34E-05	3.34E-05	1.05E-04	
83	2.50 7.62E-16 0.	0.	0.	0.	3.06E-15 0. 0.	0.	0.	0.	2.45E-08 3.84E-05 6.28E-05	3.50E-05	3.50E-05	1.09E-04	
84	2.40 0. 0.	0.	0.	0.	3.28E-16 0. 0.	0.	0.	0.	2.45E-08 4.35E-05 6.70E-05	3.66E-05	3.66E-05	1.13E-04	
85	2.30 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	2.43E-08 4.95E-05 7.12E-05	3.82E-05	3.82E-05	1.17E-04	
86	2.20 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	2.42E-08 5.67E-05 7.54E-05	4.00E-05	4.00E-05	1.21E-04	
87	2.10 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	2.41E-08 6.54E-05 8.02E-05	4.18E-05	4.18E-05	1.25E-04	
88	2.00 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	2.33E-08 7.59E-05 8.60E-05	4.36E-05	4.36E-05	1.29E-04	
89	1.90 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	2.24E-08 8.87E-05 9.24E-05	4.54E-05	4.54E-05	1.33E-04	
90	1.80 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	2.14E-08 1.05E-04 1.00E-04	4.72E-05	4.72E-05	1.37E-04	
91	1.70 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	2.02E-08 1.24E-04 1.13E-04	4.90E-05	4.90E-05	1.41E-04	
92	1.60 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	1.71E-08 1.50E-04 1.26E-04	5.08E-05	5.08E-05	1.45E-04	
93	1.50 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	7.77E-09 1.83E-04 1.40E-04	5.26E-05	5.26E-05	1.49E-04	
94	1.40 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 2.27E-04 3.10E-04	5.44E-05	5.44E-05	1.53E-04	
95	1.30 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 2.85E-04 4.31E-04	5.62E-05	5.62E-05	1.57E-04	
96	1.20 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 3.64E-04 5.81E-04	5.80E-05	5.80E-05	1.61E-04	
97	1.10 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 4.74E-04 7.74E-04	6.00E-05	6.00E-05	1.65E-04	
98	1.00 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 6.33E-04 1.04E-03	6.20E-05	6.20E-05	1.69E-04	
99	0.90 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 8.76E-04 1.40E-03	6.40E-05	6.40E-05	1.73E-04	
100	0.80 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 1.26E-03 1.81E-03	6.60E-05	6.60E-05	1.77E-04	
101	0.70 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 1.90E-03 2.38E-03	6.80E-05	6.80E-05	1.81E-04	
102	0.60 0. 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 3.17E-03 3.81E-03	7.00E-05	7.00E-05	1.85E-04	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1800G.		DENSITY (GM/CC)		1.293E-07		(10.0E-05 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15	NO. 16	NO. 17
1 10.70 0.	1.95E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.	1.78E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.	1.80E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.	1.71E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.	1.49E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.	1.54E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.	1.45E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.	1.28E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	1.31E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	1.24E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	1.07E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	1.16E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	9.91E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	9.39E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	9.63E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	8.01E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	8.23E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	7.50E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	6.95E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	6.84E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	5.95E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	6.14E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	5.39E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	5.36E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	4.56E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	4.62E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	4.00E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	4.03E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	3.48E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	3.61E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	3.18E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.	3.02E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	2.80E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	2.52E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	2.40E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	2.17E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	2.09E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.	1.92E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.	1.85E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.	1.56E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.	1.56E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.	1.49E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.	1.34E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.	1.07E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.	1.33E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.	1.33E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.	1.22E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.	1.10E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.	1.08E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.	1.08E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.	1.08E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

## ABSORPTIVITY COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1800C. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)													
PHOTON QZ S-R ENERGY BANDS		N2 1ST POS.	N2 2ND POS.	12+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	Q- PHOTU-DEF	FREE-FREE (IONS)	N P.E.	U P.E.	TOTAL AIN
52	5.60 1.21E-25	0.	0.	0.	1.51E-17	9.74E-17	0.	0.	5.07E-11	3.62E-08	1.81E-07	1.30E-07	3.48E-07
53	5.50 0.	0.	0.	0.	1.84E-17	9.03E-17	0.	0.	5.10E-11	3.82E-08	1.86E-07	1.32E-07	3.55E-07
54	5.40 0.	0.	0.	0.	1.70E-17	7.35E-17	0.	0.	5.12E-11	4.04E-08	1.91E-07	1.33E-07	3.65E-07
55	5.30 0.	0.	0.	0.	1.74E-17	9.28E-17	0.	0.	5.16E-11	4.27E-08	1.96E-07	1.35E-07	3.74E-07
56	5.20 0.	0.	0.	0.	1.87E-17	7.01E-17	0.	0.	5.19E-11	4.52E-08	2.02E-07	1.38E-07	3.85E-07
57	5.10 0.	0.	0.	0.	1.87E-17	9.00E-17	0.	0.	5.23E-11	4.80E-08	2.08E-07	1.40E-07	3.96E-07
58	5.00 1.66E-18	0.	0.	0.	1.71E-17	8.46E-17	0.	0.	5.28E-11	5.10E-08	2.15E-07	1.42E-07	4.08E-07
59	4.90 4.03E-18	0.	0.	0.	1.91E-17	9.24E-17	0.	0.	5.32E-11	5.42E-08	2.22E-07	1.45E-07	4.22E-07
60	4.80 7.56E-18	0.	0.	0.	2.05E-17	8.68E-17	0.	0.	5.37E-11	5.77E-08	2.31E-07	1.48E-07	4.36E-07
61	4.70 1.02E-17	0.	0.	0.	2.05E-17	7.88E-17	0.	0.	5.41E-11	6.15E-08	2.39E-07	1.52E-07	4.53E-07
62	4.60 1.41E-17	0.	0.	0.	2.11E-17	7.16E-17	0.	0.	5.45E-11	6.56E-08	2.50E-07	1.56E-07	4.71E-07
63	4.50 1.48E-17	0.	1.60E-17	0.	1.94E-17	5.39E-17	0.	0.	5.50E-11	7.02E-08	2.63E-07	1.60E-07	4.93E-07
64	4.40 1.59E-17	0.	4.79E-17	0.	1.95E-17	3.71E-17	0.	0.	5.54E-11	7.51E-08	2.76E-07	1.64E-07	5.15E-07
65	4.30 1.50E-17	0.	1.57E-16	0.	1.86E-17	2.33E-17	0.	0.	5.59E-11	8.05E-08	2.90E-07	1.65E-07	5.36E-07
66	4.20 1.44E-17	0.	5.01E-16	0.	1.96E-17	1.63E-17	0.	0.	5.63E-11	8.65E-08	3.05E-07	1.47E-07	5.39E-07
67	4.10 1.32E-17	0.	2.20E-16	0.	1.92E-17	4.54E-18	0.	0.	5.65E-11	9.30E-08	3.20E-07	7.17E-08	4.85E-07
68	4.00 1.22E-17	0.	7.24E-16	0.	1.86E-17	3.43E-18	0.	0.	5.67E-11	1.00E-07	3.07E-07	7.41E-08	4.81E-07
69	3.90 1.04E-17	0.	3.39E-16	1.13E-13	1.72E-17	1.30E-18	0.	0.	5.65E-11	1.08E-07	2.59E-07	7.65E-08	4.44E-07
70	3.80 1.14E-17	0.	5.41E-16	4.79E-13	1.85E-17	0.	0.	0.	5.63E-11	1.17E-07	2.71E-07	7.97E-08	4.68E-07
71	3.70 1.02E-17	0.	5.65E-16	2.03E-13	1.58E-17	0.	0.	0.	5.54E-11	1.27E-07	2.72E-07	8.73E-08	4.86E-07
72	3.60 9.18E-18	0.	4.00E-16	1.08E-12	1.71E-17	0.	0.	0.	5.19E-11	1.38E-07	2.93E-07	9.58E-08	5.27E-07
73	3.50 8.59E-18	0.	5.28E-16	2.07E-12	1.35E-17	0.	0.	0.	4.75E-11	1.50E-07	3.23E-07	1.05E-07	5.78E-07
74	3.40 7.94E-18	0.	3.37E-16	3.12E-13	1.52E-17	0.	0.	0.	2.74E-11	1.64E-07	3.57E-07	1.16E-07	6.37E-07
75	3.30 6.34E-18	0.	3.45E-16	1.21E-12	1.22E-17	0.	0.	0.	2.74E-11	1.79E-07	3.91E-07	1.27E-07	6.98E-07
76	3.20 5.54E-18	0.	2.27E-16	2.01E-12	1.28E-17	0.	0.	0.	2.75E-11	1.97E-07	3.94E-07	1.38E-07	7.30E-07
77	3.10 5.31E-18	0.	1.76E-16	4.94E-13	1.21E-17	0.	0.	0.	2.76E-11	2.17E-07	4.29E-07	1.50E-07	7.96E-07
78	3.00 4.77E-18	0.	1.08E-16	1.15E-12	1.15E-17	0.	0.	0.	2.76E-11	2.40E-07	4.65E-07	1.62E-07	8.66E-07
79	2.90 4.02E-18	0.	6.78E-17	6.34E-13	8.79E-18	0.	0.	0.	2.77E-11	2.66E-07	5.03E-07	1.74E-07	9.43E-07
80	2.80 4.20E-18	0.	3.27E-17	4.10E-13	6.13E-18	0.	0.	0.	2.77E-11	2.96E-07	5.47E-07	1.88E-07	1.03E-06
81	2.70 2.72E-18	0.	1.53E-17	5.46E-13	3.36E-18	0.	0.	0.	2.77E-11	3.31E-07	5.94E-07	1.76E-07	1.10E-06
82	2.60 1.29E-18	0.	7.44E-18	5.55E-14	1.49E-18	0.	0.	0.	2.77E-11	3.71E-07	6.41E-07	1.10E-07	1.12E-06
83	2.50 9.05E-20	0.	7.95E-19	5.35E-14	3.56E-19	0.	0.	0.	2.77E-11	4.18E-07	5.04E-07	1.28E-07	1.05E-06
84	2.40 0.	3.63E-17	0.	4.28E-14	3.80E-20	0.	0.	0.	2.77E-11	4.73E-07	6.15E-07	1.56E-07	1.24E-06
85	2.30 0.	1.12E-16	0.	0.	0.	0.	0.	0.	2.75E-11	5.39E-07	7.43E-07	1.86E-07	1.47E-06
86	2.20 0.	2.92E-16	0.	0.	0.	0.	0.	0.	2.74E-11	6.17E-07	8.75E-07	2.22E-07	1.72E-06
87	2.10 0.	3.07E-16	0.	0.	0.	0.	0.	0.	2.73E-11	7.12E-07	1.02E-06	2.59E-07	1.99E-06
88	2.00 0.	6.04E-16	0.	0.	0.	0.	0.	0.	2.64E-11	8.26E-07	1.16E-06	2.96E-07	2.26E-06
89	1.90 0.	7.63E-16	0.	0.	0.	0.	0.	0.	2.54E-11	9.66E-07	1.32E-06	3.43E-07	2.63E-06
90	1.80 0.	6.47E-16	0.	0.	0.	0.	0.	0.	2.43E-11	1.14E-06	1.58E-06	4.16E-07	3.13E-06
91	1.70 0.	7.42E-16	0.	0.	0.	0.	0.	0.	2.29E-11	1.35E-06	1.85E-06	5.05E-07	3.72E-06
92	1.60 0.	5.54E-16	0.	0.	0.	0.	0.	0.	1.93E-11	1.63E-06	2.17E-06	5.71E-07	4.37E-06
93	1.50 0.	6.38E-16	0.	0.	0.	0.	0.	0.	8.80E-12	1.99E-06	2.65E-06	6.98E-07	5.34E-06
94	1.40 0.	6.31E-16	0.	0.	0.	0.	0.	0.	0.	2.47E-06	2.51E-06	8.03E-07	5.78E-06
95	1.30 0.	4.84E-16	0.	0.	0.	0.	0.	0.	0.	3.10E-06	3.71E-06	8.54E-07	7.67E-06
96	1.20 0.	4.62E-16	0.	0.	0.	0.	0.	0.	0.	3.96E-06	4.89E-06	1.15E-06	10.00E-06
97	1.10 0.	4.40E-16	0.	0.	0.	0.	9.26E-22	0.	0.	5.16E-06	6.21E-06	1.35E-06	1.27E-05
98	1.00 0.	4.04E-16	0.	0.	0.	0.	1.38E-20	0.	0.	6.89E-06	7.33E-06	1.64E-06	1.59E-05
99	0.90 0.	3.32E-16	0.	0.	0.	0.	1.60E-20	0.	0.	9.53E-06	8.57E-06	1.92E-06	2.00E-05
100	0.80 0.	1.56E-16	0.	0.	0.	0.	3.47E-19	0.	0.	1.37E-05	9.48E-06	2.02E-06	2.52E-05
101	0.70 0.	3.68E-17	0.	0.	0.	0.	3.12E-19	0.	0.	2.07E-05	8.66E-06	1.75E-06	3.13E-05
102	0.60 0.	6.26E-18	0.	0.	0.	0.	1.02E-18	0.	0.	3.34E-05	9.98E-06	1.98E-06	4.54E-05

# ADSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		18000.		DENSITY (GM/CC) 1.293E-08 (1.0E-05 NORMAL)		O-		FREE-FREE		N		O		TOTAL AIR	
PHOTON ENERGY BANDS E.V.		U2 S-R CNT.		N2 B-H NO. 1		NO BETA		NO GAMMA		NO 2		PHOTO-DET (IONS)		P.E.	
1	10.70	0.	0.	1.94E-19	0.	0.	0.	0.	0.	0.	0.	5.20E-14	6.01E-11	6.38E-09	1.40E-09
2	10.60	0.	0.	1.76E-19	0.	0.	0.	0.	0.	0.	0.	5.21E-14	6.19E-11	6.42E-09	1.39E-09
3	10.50	0.	0.	1.78E-19	0.	0.	0.	0.	0.	0.	0.	5.21E-14	6.37E-11	6.45E-09	1.39E-09
4	10.40	0.	0.	1.69E-19	0.	0.	0.	0.	0.	0.	0.	5.22E-14	6.55E-11	6.48E-09	1.38E-09
5	10.30	0.	0.	1.48E-19	0.	0.	0.	0.	0.	0.	0.	5.23E-14	6.75E-11	6.51E-09	1.38E-09
6	10.20	0.	0.	1.53E-19	0.	0.	0.	0.	0.	0.	0.	5.24E-14	6.95E-11	6.55E-09	1.37E-09
7	10.10	0.	0.	1.44E-19	0.	0.	0.	0.	0.	0.	0.	5.24E-14	7.16E-11	6.60E-09	1.37E-09
8	10.00	0.	0.	1.27E-19	0.	0.	0.	0.	0.	0.	0.	5.25E-14	7.37E-11	6.65E-09	1.36E-09
9	9.90	0.	0.	1.30E-19	0.	0.	0.	0.	0.	0.	0.	5.26E-14	7.60E-11	6.70E-09	1.36E-09
10	9.80	0.	0.	1.22E-19	0.	0.	0.	0.	0.	0.	0.	5.27E-14	7.84E-11	6.75E-09	1.36E-09
11	9.70	0.	0.	1.06E-19	0.	0.	0.	0.	0.	0.	0.	5.28E-14	8.09E-11	6.79E-09	1.35E-09
12	9.60	0.	0.	1.15E-19	0.	0.	0.	0.	0.	0.	0.	5.29E-14	8.35E-11	6.84E-09	1.35E-09
13	9.50	0.	0.	9.82E-20	0.	0.	0.	0.	0.	0.	0.	5.30E-14	8.62E-11	6.89E-09	1.34E-09
14	9.40	0.	0.	9.31E-20	0.	0.	0.	0.	0.	0.	0.	5.32E-14	8.90E-11	6.94E-09	1.34E-09
15	9.30	0.	0.	9.55E-20	0.	0.	0.	0.	0.	0.	0.	5.34E-14	9.19E-11	4.70E-09	1.33E-09
16	9.20	0.	0.	7.94E-20	0.	0.	0.	0.	0.	0.	0.	5.36E-14	9.49E-11	4.73E-09	1.33E-09
17	9.10	0.	0.	8.16E-20	0.	0.	0.	0.	0.	0.	0.	5.37E-14	9.81E-11	4.77E-09	1.32E-09
18	9.00	0.	0.	7.43E-20	0.	0.	0.	0.	0.	0.	0.	5.39E-14	1.02E-10	4.81E-09	1.32E-09
19	8.90	0.	0.	6.89E-20	0.	0.	0.	0.	0.	0.	0.	5.41E-14	1.05E-10	4.85E-09	1.28E-09
20	8.80	0.	0.	6.78E-20	0.	0.	0.	0.	0.	0.	0.	5.43E-14	1.09E-10	4.89E-09	1.27E-09
21	8.70	0.	0.	5.90E-20	0.	0.	0.	0.	0.	0.	0.	5.45E-14	1.12E-10	4.93E-09	1.27E-09
22	8.60	0.	0.	6.08E-20	0.	0.	0.	0.	0.	0.	0.	5.47E-14	1.16E-10	4.97E-09	1.26E-09
23	8.50	0.	0.	5.34E-20	0.	0.	0.	0.	0.	0.	0.	5.49E-14	1.21E-10	5.01E-09	1.26E-09
24	8.40	0.	0.	5.32E-20	0.	0.	0.	0.	0.	0.	0.	5.52E-14	1.25E-10	5.05E-09	1.26E-09
25	8.30	0.	0.	4.52E-20	0.	0.	0.	0.	0.	0.	0.	5.55E-14	1.29E-10	3.11E-09	1.26E-09
26	8.20	0.	0.	4.58E-20	0.	0.	0.	0.	0.	0.	0.	5.58E-14	1.34E-10	3.19E-09	1.26E-09
27	8.10	0.	0.	3.97E-20	0.	0.	0.	0.	0.	0.	0.	5.61E-14	1.39E-10	3.28E-09	1.27E-09
28	8.00	0.	0.	4.00E-20	0.	0.	0.	0.	0.	0.	0.	5.63E-14	1.45E-10	3.36E-09	1.27E-09
29	7.90	0.	0.	3.45E-20	0.	0.	0.	0.	0.	0.	0.	5.66E-14	1.50E-10	3.45E-09	1.27E-09
30	7.80	0.	0.	3.58E-20	0.	0.	0.	0.	0.	0.	0.	5.69E-14	1.56E-10	3.53E-09	1.28E-09
31	7.70	0.	0.	3.15E-20	0.	0.	0.	0.	0.	0.	0.	5.72E-14	1.62E-10	3.63E-09	1.28E-09
32	7.60	0.	0.	2.99E-20	0.	0.	0.	0.	0.	0.	0.	5.75E-14	1.69E-10	3.73E-09	1.29E-09
33	7.50	0.	0.	2.78E-20	0.	0.	0.	0.	0.	0.	0.	5.78E-14	1.76E-10	3.83E-09	1.29E-09
34	7.40	0.	0.	2.50E-20	0.	0.	0.	0.	0.	0.	0.	5.81E-14	1.83E-10	3.93E-09	1.30E-09
35	7.30	0.	0.	2.37E-20	0.	0.	0.	0.	0.	0.	0.	5.84E-14	1.91E-10	3.84E-09	1.30E-09
36	7.20	0.	0.	2.15E-20	0.	0.	0.	0.	0.	0.	0.	5.88E-14	1.99E-10	3.99E-09	1.31E-09
37	7.10	0.	0.	2.07E-20	0.	0.	0.	0.	0.	0.	0.	5.92E-14	2.08E-10	4.14E-09	1.31E-09
38	7.00	0.	0.	1.90E-20	0.	0.	0.	0.	0.	0.	0.	5.97E-14	2.17E-10	4.29E-09	1.32E-09
39	6.90	0.	0.	1.75E-20	0.	0.	0.	0.	0.	0.	0.	6.02E-14	2.26E-10	4.44E-09	1.33E-09
40	6.80	0.	0.	1.68E-20	0.	0.	0.	0.	0.	0.	0.	6.07E-14	2.37E-10	4.59E-09	1.33E-09
41	6.70	0.	0.	1.48E-20	0.	0.	0.	0.	0.	0.	0.	6.12E-14	2.48E-10	4.74E-09	1.34E-09
42	6.60	0.	0.	1.33E-20	0.	0.	0.	0.	0.	0.	0.	6.16E-14	2.59E-10	4.90E-09	1.35E-09
43	6.50	0.	0.	1.06E-20	0.	0.	0.	0.	0.	0.	0.	6.21E-14	2.71E-10	5.05E-09	1.36E-09
44	6.40	0.	0.	7.36E-21	0.	0.	0.	0.	0.	0.	0.	6.26E-14	2.84E-10	5.21E-09	1.37E-09
45	6.30	0.	0.	4.61E-21	0.	0.	0.	0.	0.	0.	0.	6.31E-14	2.98E-10	5.37E-09	1.38E-09
46	6.20	0.	0.	2.56E-21	0.	0.	0.	0.	0.	0.	0.	6.36E-14	3.13E-10	5.53E-09	1.39E-09
47	6.10	0.	0.	1.21E-21	0.	0.	0.	0.	0.	0.	0.	6.40E-14	3.29E-10	5.70E-09	1.41E-09
48	6.00	0.	0.	3.07E-22	0.	0.	0.	0.	0.	0.	0.	6.45E-14	3.45E-10	5.86E-09	1.43E-09
49	5.90	0.	0.	2.20E-23	0.	0.	0.	0.	0.	0.	0.	6.45E-14	3.63E-10	6.00E-09	1.45E-09
50	5.80	0.	0.	5.55E-25	0.	0.	0.	0.	0.	0.	0.	6.36E-14	3.83E-10	6.26E-09	1.47E-09
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.97E-14	4.03E-10	6.51E-09	1.50E-09

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		18000.		DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY	Q2 S-R	N2 1ST POS.	N2 2ND POS.	N2+ 1ST VEG.	NO RETA	NO GAMMA	NO VIB-ROT	NO 2	PHOTO-DET (IUNS)	0	P.E.	0	P.E.
52	5.60	1.32E-29	0.	0.	1.57E-21	1.01E-20	0.	0.	5.55E-14	4.25E-10	2.82E-09	1.39E-09	4.64E-09
53	5.50	0.	0.	0.	1.92E-21	9.41E-21	0.	0.	5.58E-14	4.49E-10	2.93E-09	1.41E-09	4.78E-09
54	5.40	0.	0.	0.	1.77E-21	7.65E-21	0.	0.	5.61E-14	4.75E-10	3.04E-09	1.43E-09	4.94E-09
55	5.30	0.	0.	0.	1.81E-21	9.67E-21	0.	0.	5.65E-14	5.02E-10	3.16E-09	1.45E-09	5.11E-09
56	5.20	0.	0.	0.	1.95E-21	7.30E-21	0.	0.	5.68E-14	5.32E-10	3.28E-09	1.47E-09	5.29E-09
57	5.10	0.	0.	0.	1.95E-21	9.38E-21	0.	0.	5.73E-14	5.64E-10	3.41E-09	1.49E-09	5.47E-09
58	5.00	1.81E-22	0.	0.	1.78E-21	8.82E-21	0.	0.	5.78E-14	5.99E-10	3.55E-09	1.51E-09	5.66E-09
59	4.90	4.41E-22	0.	0.	1.99E-21	9.62E-21	0.	0.	5.83E-14	6.37E-10	3.69E-09	1.54E-09	5.87E-09
60	4.80	8.28E-22	0.	0.	2.14E-21	9.04E-21	0.	0.	5.88E-14	6.78E-10	3.83E-09	1.58E-09	6.09E-09
61	4.70	1.12E-21	0.	0.	2.14E-21	8.21E-21	0.	0.	5.92E-14	7.23E-10	4.02E-09	1.62E-09	6.36E-09
62	4.60	1.54E-21	0.	0.	2.20E-21	7.46E-21	0.	0.	5.97E-14	7.72E-10	4.25E-09	1.66E-09	6.69E-09
63	4.50	1.62E-21	0.	0.	2.02E-21	5.61E-21	0.	0.	6.02E-14	8.25E-10	4.51E-09	1.71E-09	7.04E-09
64	4.40	1.74E-21	0.	0.	2.02E-21	5.61E-21	0.	0.	6.07E-14	8.83E-10	4.77E-09	1.75E-09	7.41E-09
65	4.30	1.65E-21	0.	0.	2.03E-21	3.86E-21	0.	0.	6.12E-14	9.47E-10	5.04E-09	1.76E-09	7.75E-09
66	4.20	1.54E-21	0.	0.	2.04E-21	1.70E-21	0.	0.	6.16E-14	1.02E-09	5.33E-09	1.76E-09	7.75E-09
67	4.10	1.45E-21	0.	0.	2.00E-21	4.73E-22	0.	0.	6.19E-14	1.09E-09	5.44E-09	1.79E-09	7.93E-09
68	4.00	1.34E-21	0.	0.	1.93E-21	2.42E-21	0.	0.	6.21E-14	1.18E-09	5.06E-09	1.82E-09	8.22E-09
69	3.90	1.14E-21	0.	0.	1.94E-21	2.42E-21	0.	0.	6.21E-14	1.27E-09	5.34E-09	1.82E-09	8.50E-09
70	3.80	1.25E-21	0.	0.	1.93E-21	1.70E-21	0.	0.	6.16E-14	1.38E-09	5.61E-09	1.87E-09	8.87E-09
71	3.70	1.11E-21	0.	0.	1.79E-21	1.35E-22	0.	0.	6.07E-14	1.49E-09	5.77E-09	1.90E-09	9.70E-09
72	3.60	1.01E-21	0.	0.	1.65E-21	0.	0.	0.	5.68E-14	1.62E-09	6.14E-09	1.06E-09	1.06E-08
73	3.50	9.41E-22	0.	0.	1.78E-21	0.	0.	0.	5.20E-14	1.77E-09	6.59E-09	1.16E-09	1.16E-08
74	3.40	8.65E-22	0.	0.	1.58E-21	0.	0.	0.	3.00E-14	1.93E-09	4.13E-09	1.27E-09	1.39E-09
75	3.30	6.93E-22	0.	0.	1.27E-21	0.	0.	0.	3.00E-14	2.11E-09	4.53E-09	1.39E-09	1.49E-09
76	3.20	6.06E-22	0.	0.	1.33E-21	0.	0.	0.	3.01E-14	2.32E-09	5.01E-09	1.49E-09	1.60E-09
77	3.10	5.82E-22	0.	0.	1.26E-21	0.	0.	0.	3.02E-14	2.55E-09	5.53E-09	1.60E-09	1.72E-09
78	3.00	5.23E-22	0.	0.	1.20E-21	0.	0.	0.	3.03E-14	2.82E-09	6.04E-09	1.72E-09	1.86E-08
79	2.90	4.41E-22	0.	0.	9.16E-22	0.	0.	0.	3.03E-14	3.13E-09	6.58E-09	1.86E-09	2.01E-09
80	2.80	4.65E-22	0.	0.	6.38E-22	0.	0.	0.	3.03E-14	3.48E-09	7.18E-09	2.01E-09	2.15E-08
81	2.70	2.97E-22	0.	0.	3.50E-22	0.	0.	0.	3.03E-14	3.89E-09	7.77E-09	2.11E-09	2.28E-08
82	2.60	1.41E-22	0.	0.	1.55E-22	0.	0.	0.	3.03E-14	4.36E-09	8.43E-09	2.21E-09	2.40E-08
83	2.50	9.91E-24	0.	0.	3.70E-23	0.	0.	0.	3.03E-14	4.91E-09	9.26E-09	2.40E-09	2.66E-08
84	2.40	0.	3.60E-21	0.	3.96E-24	0.	0.	0.	3.03E-14	5.56E-09	1.07E-09	2.66E-09	2.94E-08
85	2.30	0.	1.11E-20	0.	0.	0.	0.	0.	3.01E-14	6.33E-09	1.02E-08	2.02E-09	3.15E-08
86	2.20	0.	2.89E-20	0.	0.	0.	0.	0.	3.00E-14	7.25E-09	1.19E-08	2.41E-09	3.49E-08
87	2.10	0.	3.05E-20	0.	0.	0.	0.	0.	2.99E-14	8.36E-09	1.36E-08	2.80E-09	3.81E-08
88	2.00	0.	5.99E-20	0.	0.	0.	0.	0.	2.89E-14	9.70E-09	1.53E-08	3.13E-09	4.28E-08
89	1.90	0.	7.57E-20	0.	0.	0.	0.	0.	2.78E-14	1.13E-08	1.45E-08	3.62E-09	4.89E-08
90	1.80	0.	6.41E-20	0.	0.	0.	0.	0.	2.66E-14	1.34E-08	1.72E-08	4.39E-09	5.34E-08
91	1.70	0.	7.35E-20	0.	0.	0.	0.	0.	2.50E-14	1.59E-08	2.04E-08	5.34E-09	6.17E-08
92	1.60	0.	5.49E-20	0.	0.	0.	0.	0.	2.12E-14	1.91E-08	2.37E-08	6.03E-09	7.89E-08
93	1.50	0.	6.33E-20	0.	0.	0.	0.	0.	9.63E-15	2.34E-08	2.86E-08	6.79E-09	9.25E-08
94	1.40	0.	6.26E-20	0.	0.	0.	0.	0.	0.	2.89E-08	3.83E-08	9.01E-09	1.25E-07
95	1.30	0.	4.80E-20	0.	0.	0.	0.	0.	0.	3.64E-08	5.84E-08	1.11E-08	1.66E-07
96	1.20	0.	4.58E-20	0.	0.	0.	0.	0.	0.	4.64E-08	8.48E-08	1.41E-08	2.04E-07
97	1.10	0.	4.37E-20	0.	0.	0.	0.	0.	0.	6.05E-08	1.27E-08	1.71E-08	2.41E-07
98	1.00	0.	3.29E-20	0.	0.	0.	0.	0.	0.	8.08E-08	2.04E-08	2.41E-08	3.28E-07
99	0.90	0.	1.55E-20	0.	0.	0.	0.	0.	0.	1.12E-07	3.18E-08	3.61E-08	4.94E-07
100	0.80	0.	3.64E-21	0.	0.	0.	0.	0.	0.	1.61E-07	5.44E-08	5.21E-08	6.94E-07
101	0.70	0.	6.80E-22	0.	0.	0.	0.	0.	0.	2.43E-07	8.83E-08	8.83E-08	1.18E-07
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	3.91E-07	1.41E-07	2.07E-08	2.76E-07

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1800C.		DENSITY (GM/CC) 1.293E-09 (1.0E-06 NORMAL)		NO		O- PHOTO-DET (IONS)		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	02 S-R BANDS	02 S-K CONT.	02 H-H NO. 1	NO BETA	NO GAMMA	0- PHOTO-DET (IONS)	N	P.E.	0	P.E.	0	P.E.	0
1 10.70 0.		0.	1.43E-23	0.	0.	7.41E-17	1.15E-12	2.35E-10	2.21E-11	2.58E-10	2.21E-11	2.58E-10	2.58E-10
2 10.60 0.		0.	1.31E-23	0.	0.	7.42E-17	1.19E-12	2.36E-10	2.20E-11	2.60E-10	2.20E-11	2.60E-10	2.60E-10
3 10.50 0.		0.	1.32E-23	0.	0.	7.43E-17	1.22E-12	2.38E-10	2.20E-11	2.61E-10	2.20E-11	2.61E-10	2.61E-10
4 10.40 0.		0.	1.25E-23	0.	0.	7.44E-17	1.26E-12	2.39E-10	2.19E-11	2.62E-10	2.19E-11	2.62E-10	2.62E-10
5 10.30 0.		0.	1.10E-23	0.	0.	7.45E-17	1.29E-12	2.41E-10	2.18E-11	2.64E-10	2.18E-11	2.64E-10	2.64E-10
6 10.20 0.		0.	1.13E-23	0.	0.	7.46E-17	1.33E-12	2.44E-10	2.18E-11	2.67E-10	2.18E-11	2.67E-10	2.67E-10
7 10.10 0.		0.	1.07E-23	0.	0.	7.47E-17	1.37E-12	2.47E-10	2.18E-11	2.70E-10	2.18E-11	2.70E-10	2.70E-10
8 10.00 0.		0.	9.39E-24	0.	0.	7.48E-17	1.41E-12	2.50E-10	2.18E-11	2.73E-10	2.18E-11	2.73E-10	2.73E-10
9 9.90 0.		0.	9.64E-24	0.	0.	7.49E-17	1.46E-12	2.52E-10	2.18E-11	2.76E-10	2.18E-11	2.76E-10	2.76E-10
10 9.80 0.		0.	9.07E-24	0.	0.	7.50E-17	1.50E-12	2.55E-10	2.18E-11	2.79E-10	2.18E-11	2.79E-10	2.79E-10
11 9.70 0.		0.	7.85E-24	0.	0.	7.52E-17	1.55E-12	2.58E-10	2.18E-11	2.82E-10	2.18E-11	2.82E-10	2.82E-10
12 9.60 0.		0.	8.49E-24	0.	0.	7.53E-17	1.60E-12	2.61E-10	2.18E-11	2.84E-10	2.18E-11	2.84E-10	2.84E-10
13 9.50 0.		0.	7.28E-24	0.	0.	7.55E-17	1.65E-12	2.64E-10	2.18E-11	2.87E-10	2.18E-11	2.87E-10	2.87E-10
14 9.40 0.		0.	6.90E-24	0.	0.	7.57E-17	1.70E-12	2.67E-10	2.18E-11	2.90E-10	2.18E-11	2.90E-10	2.90E-10
15 9.30 0.		0.	7.07E-24	0.	0.	7.60E-17	1.76E-12	2.50E-10	2.19E-11	2.73E-10	2.19E-11	2.73E-10	2.73E-10
16 9.20 0.		0.	5.88E-24	0.	0.	7.63E-17	1.82E-12	2.52E-10	2.19E-11	2.76E-10	2.19E-11	2.76E-10	2.76E-10
17 9.10 0.		0.	6.04E-24	0.	0.	7.66E-17	1.88E-12	2.55E-10	2.19E-11	2.79E-10	2.19E-11	2.79E-10	2.79E-10
18 9.00 0.		0.	5.51E-24	0.	0.	7.68E-17	1.94E-12	2.58E-10	2.19E-11	2.82E-10	2.19E-11	2.82E-10	2.82E-10
19 8.90 0.		0.	5.10E-24	0.	0.	7.71E-17	2.01E-12	2.60E-10	2.18E-11	2.80E-10	2.18E-11	2.80E-10	2.80E-10
20 8.80 0.		0.	5.02E-24	0.	0.	7.74E-17	2.08E-12	2.63E-10	2.18E-11	2.83E-10	2.18E-11	2.83E-10	2.83E-10
21 8.70 0.		0.	4.37E-24	0.	0.	7.77E-17	2.15E-12	2.66E-10	2.18E-11	2.86E-10	2.18E-11	2.86E-10	2.86E-10
22 8.60 0.		0.	4.51E-24	0.	0.	7.79E-17	2.23E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
23 8.50 0.		0.	3.96E-24	0.	0.	7.82E-17	2.31E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
24 8.40 0.		0.	3.94E-24	0.	0.	7.86E-17	2.39E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
25 8.30 0.		0.	3.35E-24	0.	0.	7.90E-17	2.48E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
26 8.20 0.		0.	3.39E-24	0.	0.	7.94E-17	2.57E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
27 8.10 0.		0.	2.94E-24	0.	0.	7.98E-17	2.67E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
28 8.00 0.		0.	2.96E-24	0.	0.	8.03E-17	2.77E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
29 7.90 0.		0.	2.55E-24	0.	0.	8.07E-17	2.88E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
30 7.80 0.		0.	2.65E-24	0.	0.	8.11E-17	2.99E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
31 7.70 0.		0.	2.33E-24	0.	0.	8.15E-17	3.11E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
32 7.60 0.		0.	2.22E-24	0.	0.	8.19E-17	3.23E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
33 7.50 0.		0.	2.06E-24	0.	0.	8.23E-17	3.37E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
34 7.40 0.		0.	1.85E-24	0.	0.	8.28E-17	3.50E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
35 7.30 0.		0.	1.76E-24	0.	0.	8.32E-17	3.65E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
36 7.20 0.		0.	1.59E-24	0.	0.	8.37E-17	3.81E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
37 7.10 0.		0.	1.53E-24	0.	0.	8.44E-17	3.97E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
38 7.00 1.39E-27		0.	1.41E-24	0.	0.	8.51E-17	4.14E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
39 6.90 2.71E-27		0.	1.29E-24	0.	0.	8.57E-17	4.33E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
40 6.80 2.34E-27		0.	1.25E-24	0.	0.	8.64E-17	4.52E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
41 6.70 1.71E-27		0.	1.10E-24	0.	0.	8.71E-17	4.73E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
42 6.60 1.04E-27		0.	9.84E-25	0.	0.	8.78E-17	4.95E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
43 6.50 6.01E-28		0.	7.86E-25	0.	0.	8.85E-17	5.18E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
44 6.40 3.44E-28		0.	5.45E-25	0.	0.	8.92E-17	5.43E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
45 6.30 2.01E-28		0.	3.42E-25	0.	0.	8.99E-17	5.69E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
46 6.20 9.04E-29		0.	1.90E-25	0.	0.	9.06E-17	5.98E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
47 6.10 4.10E-29		0.	8.94E-26	0.	0.	9.12E-17	6.28E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
48 6.00 1.74E-29		0.	2.27E-26	0.	0.	9.19E-17	6.60E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
49 5.90 4.20E-30		0.	1.63E-27	0.	0.	9.19E-17	6.94E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
50 5.80 5.45E-31		0.	4.11E-29	0.	0.	9.05E-17	7.31E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10
51 5.70 4.01E-32		0.	0.	0.	0.	8.51E-17	7.70E-12	2.68E-10	2.18E-11	2.89E-10	2.18E-11	2.89E-10	2.89E-10



06 NORMAL)

TOTAL  
E.

52	5.60	1.e1E-33	0.	0.	0.	1.59E-25	1.02E-24	0.	7.91E-17	8.12E-12	9.46E-11	1.90E-11	1.22E-13
53	5.50	0.	0.	0.	0.	1.94E-25	9.49E-25	0.	7.95E-17	8.58E-12	9.98E-11	1.93E-11	1.28E-10
54	5.40	0.	0.	0.	0.	1.78E-25	7.72E-25	0.	7.99E-17	9.06E-12	1.05E-10	1.97E-11	1.34E-10
55	5.30	0.	0.	0.	0.	1.83E-25	9.75E-25	0.	8.04E-17	9.59E-12	1.11E-10	1.98E-11	1.39E-10
56	5.20	0.	0.	0.	0.	1.97E-25	7.36E-25	0.	8.09E-17	1.02E-11	1.17E-10	1.93E-11	1.46E-10
57	5.10	0.	0.	0.	0.	1.97E-25	9.45E-25	0.	8.16E-17	1.08E-11	1.22E-10	1.97E-11	1.53E-10
58	5.00	2.49E-26	0.	0.	0.	1.80E-25	8.89E-25	0.	8.23E-17	1.14E-11	1.28E-10	2.02E-11	1.60E-10
59	4.90	6.05E-26	0.	0.	0.	2.01E-25	9.70E-25	0.	8.30E-17	1.22E-11	1.34E-10	2.07E-11	1.67E-10
60	4.80	1.14E-25	0.	0.	0.	2.16E-25	9.11E-25	0.	8.37E-17	1.29E-11	1.40E-10	2.12E-11	1.74E-10
61	4.70	1.53E-25	0.	0.	0.	2.16E-25	8.28E-25	0.	8.44E-17	1.38E-11	1.48E-10	2.18E-11	1.81E-10
62	4.60	2.12E-25	0.	0.	0.	2.22E-25	7.53E-25	0.	8.51E-17	1.47E-11	1.59E-10	2.25E-11	1.86E-10
63	4.50	2.23E-25	0.	1.17E-25	0.	2.04E-25	5.66E-25	0.	8.57E-17	1.57E-11	1.70E-10	2.32E-11	2.09E-10
64	4.40	2.38E-25	0.	3.52E-25	0.	2.04E-25	3.89E-25	0.	8.64E-17	1.68E-11	1.81E-10	2.35E-11	2.21E-10
65	4.30	2.26E-25	0.	1.15E-24	0.	1.95E-25	2.44E-25	0.	8.71E-17	1.81E-11	1.92E-10	2.13E-11	2.32E-10
66	4.20	2.11E-25	0.	3.68E-24	0.	2.06E-25	1.72E-25	0.	8.78E-17	1.94E-11	2.05E-10	1.27E-11	2.37E-10
67	4.10	1.98E-25	0.	1.62E-24	0.	2.02E-25	4.77E-26	0.	8.81E-17	2.09E-11	2.16E-10	1.33E-11	2.50E-10
68	4.00	1.83E-25	0.	5.32E-24	0.	1.95E-25	3.60E-26	0.	8.85E-17	2.25E-11	2.24E-10	1.40E-11	2.60E-10
69	3.90	1.56E-25	0.	2.49E-24	6.51E-20	1.80E-25	1.36E-26	0.	8.81E-17	2.43E-11	2.37E-10	1.46E-11	2.76E-10
70	3.80	1.71E-25	0.	3.97E-24	2.76E-19	1.94E-25	0.	0.	8.78E-17	2.62E-11	2.49E-10	1.54E-11	2.91E-10
71	3.70	1.53E-25	0.	4.15E-24	1.17E-19	1.66E-25	0.	0.	8.64E-17	2.84E-11	2.62E-10	1.67E-11	3.07E-10
72	3.60	1.38E-25	0.	2.93E-24	6.24E-19	1.80E-25	0.	0.	8.09E-17	3.09E-11	2.76E-10	1.73E-11	3.24E-10
73	3.50	1.29E-25	0.	3.88E-24	1.19E-18	1.42E-25	0.	0.	7.41E-17	3.36E-11	8.88E-11	1.89E-11	1.41E-10
74	3.40	1.19E-25	0.	2.47E-24	1.80E-19	1.60E-25	0.	0.	4.27E-17	3.67E-11	9.70E-11	2.06E-11	1.54E-10
75	3.30	9.51E-26	0.	2.53E-24	6.96E-19	1.28E-25	0.	0.	4.28E-17	4.02E-11	1.05E-10	1.99E-11	1.65E-10
76	3.20	8.31E-26	0.	1.67E-24	1.16E-18	1.34E-25	0.	0.	4.29E-17	4.41E-11	1.19E-10	2.01E-11	1.83E-10
77	3.10	7.98E-26	0.	1.29E-24	2.85E-19	1.28E-25	0.	0.	4.30E-17	4.86E-11	1.34E-10	2.19E-11	2.05E-10
78	3.00	7.17E-26	0.	7.95E-25	6.64E-19	1.21E-25	0.	0.	4.31E-17	5.37E-11	1.50E-10	2.38E-11	2.27E-10
79	2.90	6.04E-26	0.	4.98E-25	3.65E-19	9.23E-26	0.	0.	4.31E-17	5.95E-11	1.65E-10	2.57E-11	2.51E-10
80	2.80	6.31E-26	0.	2.40E-25	2.35E-19	6.44E-26	0.	0.	4.32E-17	6.62E-11	1.81E-10	2.47E-11	2.72E-10
81	2.70	4.08E-26	0.	1.12E-25	3.15E-19	3.53E-26	0.	0.	4.32E-17	7.40E-11	1.98E-10	1.77E-11	2.89E-10
82	2.60	1.93E-26	0.	5.47E-26	3.20E-20	1.56E-26	0.	0.	4.32E-17	8.30E-11	1.96E-10	1.93E-11	2.98E-10
83	2.50	1.36E-27	0.	5.84E-27	3.09E-20	3.73E-27	0.	0.	4.32E-17	9.34E-11	2.18E-10	2.20E-11	3.34E-10
84	2.40	0.	2.66E-25	0.	2.47E-20	3.99E-28	0.	0.	4.32E-17	1.06E-10	2.51E-10	2.63E-11	3.83E-10
85	2.30	0.	8.21E-25	0.	0.	0.	0.	0.	4.29E-17	1.20E-10	2.85E-10	3.08E-11	4.36E-10
86	2.20	0.	2.14E-24	0.	0.	0.	0.	0.	4.27E-17	1.38E-10	3.20E-10	3.61E-11	4.94E-10
87	2.10	0.	2.26E-24	0.	0.	0.	0.	0.	4.25E-17	1.59E-10	1.82E-10	3.52E-11	3.76E-10
88	2.00	0.	4.44E-24	0.	0.	0.	0.	0.	4.12E-17	1.84E-10	2.08E-10	4.02E-11	4.32E-10
89	1.90	0.	5.61E-24	0.	0.	0.	0.	0.	3.96E-17	2.15E-10	2.35E-10	4.64E-11	4.97E-10
90	1.80	0.	4.75E-24	0.	0.	0.	0.	0.	3.79E-17	2.54E-10	2.70E-10	5.59E-11	5.79E-10
91	1.70	0.	5.45E-24	0.	0.	0.	0.	0.	3.57E-17	3.02E-10	3.10E-10	6.45E-11	6.76E-10
92	1.60	0.	4.07E-24	0.	0.	0.	0.	0.	3.02E-17	3.63E-10	3.37E-10	7.59E-11	7.76E-10
93	1.50	0.	4.69E-24	0.	0.	0.	0.	0.	1.37E-17	4.43E-10	3.39E-10	8.52E-11	8.67E-10
94	1.40	0.	4.64E-24	0.	0.	0.	0.	0.	0.	5.47E-10	4.04E-10	8.00E-11	1.03E-09
95	1.30	0.	3.55E-24	0.	0.	0.	0.	0.	0.	6.88E-10	3.04E-10	1.05E-10	1.10E-09
96	1.20	0.	3.40E-24	0.	0.	0.	0.	0.	0.	8.78E-10	4.17E-10	1.30E-10	1.42E-09
97	1.10	0.	3.23E-24	0.	0.	0.	0.	0.	0.	1.14E-09	5.14E-10	1.65E-10	1.82E-09
98	1.00	0.	2.97E-24	0.	0.	0.	0.	0.	0.	1.53E-09	6.25E-10	2.00E-10	2.35E-09
99	0.90	0.	2.44E-24	0.	0.	0.	0.	0.	0.	2.11E-09	7.03E-10	2.14E-10	3.03E-09
100	0.80	0.	1.15E-24	0.	0.	0.	0.	0.	0.	3.03E-09	6.64E-10	1.86E-10	3.88E-09
101	0.70	0.	2.70E-25	0.	0.	0.	0.	0.	0.	4.56E-09	7.60E-10	2.14E-10	5.54E-09
102	0.60	0.	5.04E-26	0.	0.	0.	0.	0.	0.	7.34E-09	8.52E-10	2.42E-10	8.44E-09

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1900C. DENSITY (GM/CC) 1.293E-02 ( 1.0E 02 NORMAL)

PHOTON ENERGY BANDS L.V.	02 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	U P.E.	TOTAL AIR
1 10.70 0.	0.	9.00E-01	0.	0.	0.	4.35E 00	2.09E-01	2.97E 02	2.99E 00	3.05E 02
2 10.60 0.	0.	8.23E-01	0.	0.	0.	4.35E 00	2.15E-01	1.26E 01	2.98E 01	2.09E 01
3 10.50 0.	0.	8.34E-01	0.	0.	0.	4.36E 00	2.21E-01	1.26E 01	2.96E 01	2.10E 01
4 10.40 0.	0.	7.95E-01	0.	0.	0.	4.37E 00	2.27E-01	1.26E 01	2.95E 00	2.10E 01
5 10.30 0.	0.	6.97E-01	0.	0.	0.	4.37E 00	2.34E-01	1.27E 01	2.94E 00	2.09E 01
6 10.20 0.	0.	7.23E-01	0.	0.	0.	4.38E 00	2.41E-01	1.27E 01	2.93E 00	2.10E 01
7 10.10 0.	0.	6.83E-01	0.	0.	0.	4.38E 00	2.49E-01	1.27E 01	2.91E 00	2.09E 01
8 10.00 0.	0.	6.04E-01	0.	0.	0.	4.39E 00	2.56E-01	1.27E 01	2.90E 00	2.09E 01
9 9.90 0.	0.	6.20E-01	0.	0.	0.	4.40E 00	2.64E-01	1.28E 01	2.89E 00	2.09E 01
10 9.80 0.	0.	5.86E-01	0.	0.	0.	4.40E 00	2.72E-01	1.28E 01	2.88E 00	2.09E 01
11 9.70 0.	0.	5.10E-01	0.	0.	0.	4.41E 00	2.81E-01	1.28E 01	2.87E 00	2.09E 01
12 9.60 0.	0.	5.52E-01	0.	0.	0.	4.42E 00	2.90E-01	1.28E 01	2.85E 00	2.10E 01
13 9.50 0.	0.	4.75E-01	0.	0.	0.	4.43E 00	2.99E-01	1.29E 01	2.84E 00	2.09E 01
14 9.40 0.	0.	4.52E-01	0.	0.	0.	4.44E 00	3.09E-01	1.29E 01	2.83E 00	2.10E 01
15 9.30 0.	0.	4.64E-01	0.	0.	0.	4.46E 00	3.19E-01	1.30E 01	2.82E 00	2.10E 01
16 9.20 0.	0.	3.88E-01	0.	0.	0.	4.48E 00	3.30E-01	1.30E 01	2.81E 00	2.10E 01
17 9.10 0.	0.	3.99E-01	0.	0.	0.	4.49E 00	3.41E-01	1.30E 01	2.79E 00	2.10E 01
18 9.00 0.	0.	3.65E-01	0.	0.	0.	4.51E 00	3.52E-01	1.30E 01	2.78E 00	2.10E 01
19 8.90 0.	0.	3.40E-01	0.	0.	0.	4.53E 00	3.64E-01	1.30E 01	2.77E 00	2.10E 01
20 8.80 0.	0.	3.35E-01	0.	0.	0.	4.54E 00	3.77E-01	1.30E 01	2.76E 00	2.10E 01
21 8.70 0.	0.	2.93E-01	0.	0.	0.	4.56E 00	3.90E-01	1.30E 01	2.75E 00	2.10E 01
22 8.60 0.	0.	3.03E-01	0.	0.	0.	4.57E 00	4.04E-01	1.30E 01	2.74E 00	2.10E 01
23 8.50 0.	0.	2.67E-01	0.	0.	0.	4.59E 00	4.19E-01	1.30E 01	2.73E 00	2.10E 01
24 8.40 0.	0.	2.67E-01	0.	0.	0.	4.61E 00	4.34E-01	1.30E 01	2.72E 00	2.10E 01
25 8.30 0.	0.	2.28E-01	0.	0.	0.	4.64E 00	4.50E-01	1.30E 01	2.71E 00	2.10E 01
26 8.20 0.	0.	2.31E-01	0.	0.	0.	4.66E 00	4.67E-01	1.30E 01	2.72E 00	2.10E 01
27 8.10 0.	0.	2.01E-01	0.	0.	0.	4.69E 00	4.85E-01	1.30E 01	2.72E 00	2.10E 01
28 8.00 0.	0.	2.03E-01	0.	0.	0.	4.71E 00	5.03E-01	1.30E 01	2.73E 00	2.10E 01
29 7.90 0.	0.	1.76E-01	0.	0.	0.	4.73E 00	5.23E-01	1.30E 01	2.73E 00	2.10E 01
30 7.80 0.	0.	1.83E-01	0.	0.	0.	4.76E 00	5.43E-01	1.30E 01	2.73E 00	2.10E 01
31 7.70 0.	0.	1.62E-01	0.	0.	0.	4.78E 00	5.65E-01	1.30E 01	2.74E 00	2.10E 01
32 7.60 0.	0.	1.55E-01	0.	0.	0.	4.81E 00	5.88E-01	1.30E 01	2.74E 00	2.10E 01
33 7.50 0.	0.	1.44E-01	0.	0.	0.	4.83E 00	6.12E-01	1.30E 01	2.75E 00	2.10E 01
34 7.40 0.	0.	1.30E-01	0.	0.	0.	4.86E 00	6.37E-01	1.30E 01	2.75E 00	2.10E 01
35 7.30 0.	0.	1.24E-01	0.	0.	0.	4.89E 00	6.64E-01	1.30E 01	2.75E 00	2.10E 01
36 7.20 0.	0.	1.13E-01	0.	0.	0.	4.91E 00	6.92E-01	1.30E 01	2.76E 00	2.10E 01
37 7.10 0.	0.	1.09E-01	0.	0.	0.	4.95E 00	7.22E-01	1.30E 01	2.76E 00	2.10E 01
38 7.00 1.89E-05	0.	1.00E-01	0.	0.	0.	4.99E 00	7.54E-01	1.30E 01	2.77E 00	2.10E 01
39 6.90 3.70E-05	0.	9.25E-02	0.	0.	0.	5.03E 00	7.87E-01	1.30E 01	2.77E 00	2.10E 01
40 6.80 3.20E-05	0.	8.96E-02	0.	0.	0.	5.07E 00	8.23E-01	1.30E 01	2.78E 00	2.10E 01
41 6.70 2.34E-05	0.	7.89E-02	0.	0.	0.	5.11E 00	8.61E-01	1.30E 01	2.79E 00	2.10E 01
42 6.60 1.43E-05	0.	7.12E-02	0.	0.	0.	5.15E 00	9.01E-01	1.30E 01	2.79E 00	2.10E 01
43 6.50 8.29E-06	0.	5.72E-02	0.	0.	0.	5.19E 00	9.43E-01	1.30E 01	2.80E 00	2.10E 01
44 6.40 4.77E-06	0.	3.99E-02	0.	0.	0.	5.23E 00	9.89E-01	1.30E 01	2.81E 00	2.10E 01
45 6.30 2.78E-06	0.	2.52E-02	0.	0.	0.	5.27E 00	1.04E 00	1.30E 01	2.83E 00	2.10E 01
46 6.20 1.26E-06	0.	1.41E-02	0.	0.	0.	5.31E 00	1.09E 00	1.30E 01	2.85E 00	2.10E 01
47 6.10 5.82E-07	0.	6.68E-03	0.	0.	0.	5.36E 00	1.14E 00	1.30E 01	2.87E 00	2.10E 01
48 6.00 2.44E-07	0.	1.71E-03	0.	0.	0.	5.40E 00	1.20E 00	1.30E 01	2.90E 00	2.10E 01
49 5.90 6.02E-08	0.	1.22E-04	0.	0.	0.	5.40E 00	1.26E 00	1.30E 01	2.92E 00	2.10E 01
50 5.80 7.69E-09	0.	3.09E-06	0.	0.	0.	5.31E 00	1.33E 00	1.30E 01	2.95E 00	2.10E 01
51 5.70 5.66E-10	0.	0.	0.	0.	0.	4.99E 00	1.40E 00	1.30E 01	2.97E 00	2.10E 01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 ( 1.0E 01 NORMAL)				1.293E-02 ( 1.0E 01 NORMAL)			
TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-02 ( 1.0E 01 NORMAL)			
19000.				1.293E-02 (							

TEMPERATURE (DEGREES K) 19000.  
DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY E.V.	U2 S-R BANDS	U2 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	U- PHOTO-DET (IONS)		FREE-FREE		N		P.E.	TOTAL AIR
							U- PHOTO-DET (IONS)	FREE-FREE	FREE-FREE	N	P.E.			
1	1C-70	0.	6.87E-03	0.	0.	0.	1.17E-01	1.79E-02	2.59E	01	2.73E-01	2.64E	01	2.64E 01
2	1C-60	0.	6.28E-03	0.	0.	0.	1.17E-01	1.84E-02	1.10E	00	2.72E-01	1.51E	00	1.51E 00
3	1C-50	0.	6.36E-03	0.	0.	0.	1.18E-01	1.90E-02	1.10E	00	2.71E-01	1.57E	00	1.57E 00
4	1C-40	0.	6.06E-03	0.	0.	0.	1.18E-01	1.95E-02	1.11E	00	2.70E-01	1.52E	00	1.52E 00
5	1C-30	0.	5.32E-03	0.	0.	0.	1.19E-01	2.01E-02	1.11E	00	2.69E-01	1.52E	00	1.52E 00
6	1C-20	0.	5.51E-03	0.	0.	0.	1.18E-01	2.07E-02	1.11E	00	2.68E-01	1.52E	00	1.52E 00
7	1C-10	0.	5.21E-03	0.	0.	0.	1.18E-01	2.14E-02	1.11E	00	2.67E-01	1.52E	00	1.52E 00
8	1C-00	0.	4.60E-03	0.	0.	0.	1.18E-01	2.20E-02	1.11E	00	2.66E-01	1.52E	00	1.52E 00
9	9-90	0.	4.73E-03	0.	0.	0.	1.19E-01	2.27E-02	1.11E	00	2.65E-01	1.52E	00	1.52E 00
10	9-80	0.	4.47E-03	0.	0.	0.	1.19E-01	2.34E-02	1.12E	00	2.63E-01	1.53E	00	1.53E 00
11	9-70	0.	4.89E-03	0.	0.	0.	1.19E-01	2.42E-02	1.12E	00	2.62E-01	1.53E	00	1.53E 00
12	9-60	0.	4.21E-03	0.	0.	0.	1.19E-01	2.49E-02	1.12E	00	2.61E-01	1.53E	00	1.53E 00
13	9-50	0.	3.62E-03	0.	0.	0.	1.19E-01	2.57E-02	1.13E	00	2.60E-01	1.53E	00	1.53E 00
14	9-40	0.	3.45E-03	0.	0.	0.	1.20E-01	2.66E-02	1.13E	00	2.59E-01	1.54E	00	1.54E 00
15	9-30	0.	3.54E-03	0.	0.	0.	1.20E-01	2.74E-02	1.13E	00	2.58E-01	1.54E	00	1.54E 00
16	9-20	0.	2.96E-03	0.	0.	0.	1.21E-01	2.83E-02	1.14E	00	2.57E-01	1.54E	00	1.54E 00
17	9-10	0.	3.05E-03	0.	0.	0.	1.21E-01	2.93E-02	1.14E	00	2.56E-01	1.54E	00	1.54E 00
18	9-00	0.	2.79E-03	0.	0.	0.	1.22E-01	3.03E-02	1.14E	00	2.55E-01	1.54E	00	1.54E 00
19	8-90	0.	2.59E-03	0.	0.	0.	1.22E-01	3.13E-02	1.14E	00	2.54E-01	1.54E	00	1.54E 00
20	8-80	0.	2.56E-03	0.	0.	0.	1.22E-01	3.24E-02	1.14E	00	2.53E-01	1.54E	00	1.54E 00
21	8-70	0.	2.24E-03	0.	0.	0.	1.23E-01	3.36E-02	1.14E	00	2.52E-01	1.54E	00	1.54E 00
22	8-60	0.	2.31E-03	0.	0.	0.	1.23E-01	3.48E-02	1.14E	00	2.51E-01	1.54E	00	1.54E 00
23	8-50	0.	2.04E-03	0.	0.	0.	1.24E-01	3.60E-02	1.14E	00	2.50E-01	1.54E	00	1.54E 00
24	8-40	0.	2.03E-03	0.	0.	0.	1.24E-01	3.73E-02	1.14E	00	2.49E-01	1.54E	00	1.54E 00
25	8-30	0.	1.74E-03	0.	0.	0.	1.25E-01	3.87E-02	1.14E	00	2.48E-01	1.54E	00	1.54E 00
26	8-20	0.	1.76E-03	0.	0.	0.	1.26E-01	4.01E-02	1.14E	00	2.47E-01	1.54E	00	1.54E 00
27	8-10	0.	1.53E-03	0.	0.	0.	1.26E-01	4.17E-02	1.14E	00</				

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-03 (1.0E 00 NORMAL)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
PHOTOV U2 S-R		N2		N2		N2+		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU		NU	

TEMPERATURE (DEGREES K) 19000.  
DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTOV ENERGY E.V.	O2 S-R BANDS CONT.	N2 B-H %O. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	2.66E-05	0.	0.	0.	2.11E-03	1.14E-03	1.62E 00	1.95E-02	1.54E 00
2 10.60 0.	0.	2.43E-05	0.	0.	0.	2.11E-03	1.17E-03	6.84E-02	1.94E-02	9.11E-02
3 10.50 0.	0.	2.47E-05	0.	0.	0.	2.11E-03	1.20E-03	6.87E-02	1.93E-02	9.14E-02
4 10.40 0.	0.	2.35E-05	0.	0.	0.	2.11E-03	1.24E-03	6.90E-02	1.92E-02	9.16E-02
5 10.30 0.	0.	2.06E-05	0.	0.	0.	2.12E-03	1.28E-03	6.91E-02	1.92E-02	9.17E-02
6 10.20 0.	0.	2.14E-05	0.	0.	0.	2.12E-03	1.32E-03	6.93E-02	1.91E-02	9.18E-02
7 10.10 0.	0.	2.02E-05	0.	0.	0.	2.12E-03	1.36E-03	6.92E-02	1.90E-02	9.17E-02
8 10.00 0.	0.	1.79E-05	0.	0.	0.	2.13E-03	1.40E-03	6.93E-02	1.89E-02	9.17E-02
9 9.90 0.	0.	1.84E-05	0.	0.	0.	2.13E-03	1.44E-03	6.94E-02	1.88E-02	9.19E-02
10 9.80 0.	0.	1.73E-05	0.	0.	0.	2.13E-03	1.49E-03	6.96E-02	1.88E-02	9.20E-02
11 9.70 0.	0.	1.51E-05	0.	0.	0.	2.14E-03	1.53E-03	6.97E-02	1.87E-02	9.21E-02
12 9.60 0.	0.	1.63E-05	0.	0.	0.	2.14E-03	1.58E-03	6.99E-02	1.86E-02	9.23E-02
13 9.50 0.	0.	1.41E-05	0.	0.	0.	2.14E-03	1.63E-03	7.01E-02	1.85E-02	9.24E-02
14 9.40 0.	0.	1.34E-05	0.	0.	0.	2.15E-03	1.68E-03	7.03E-02	1.84E-02	9.26E-02
15 9.30 0.	0.	1.37E-05	0.	0.	0.	2.16E-03	1.74E-03	7.06E-02	1.84E-02	9.29E-02
16 9.20 0.	0.	1.15E-05	0.	0.	0.	2.17E-03	1.80E-03	7.08E-02	1.83E-02	9.31E-02
17 9.10 0.	0.	1.18E-05	0.	0.	0.	2.18E-03	1.86E-03	7.10E-02	1.82E-02	9.31E-02
18 9.00 0.	0.	1.08E-05	0.	0.	0.	2.18E-03	1.92E-03	7.12E-02	1.81E-02	9.30E-02
19 8.90 0.	0.	1.01E-05	0.	0.	0.	2.19E-03	1.99E-03	7.15E-02	1.81E-02	9.30E-02
20 8.80 0.	0.	9.91E-06	0.	0.	0.	2.20E-03	2.06E-03	7.18E-02	1.80E-02	9.31E-02
21 8.70 0.	0.	8.67E-06	0.	0.	0.	2.21E-03	2.13E-03	7.21E-02	1.79E-02	9.31E-02
22 8.60 0.	0.	8.96E-06	0.	0.	0.	2.21E-03	2.20E-03	7.24E-02	1.79E-02	9.31E-02
23 8.50 0.	0.	7.91E-06	0.	0.	0.	2.22E-03	2.28E-03	7.27E-02	1.78E-02	9.31E-02
24 8.40 0.	0.	7.89E-06	0.	0.	0.	2.23E-03	2.37E-03	7.30E-02	1.77E-02	9.31E-02
25 8.30 0.	0.	6.75E-06	0.	0.	0.	2.25E-03	2.45E-03	7.33E-02	1.77E-02	9.31E-02
26 8.20 0.	0.	6.84E-06	0.	0.	0.	2.26E-03	2.55E-03	7.36E-02	1.77E-02	9.31E-02
27 8.10 0.	0.	5.95E-06	0.	0.	0.	2.27E-03	2.64E-03	7.39E-02	1.77E-02	9.31E-02
28 8.00 0.	0.	6.01E-06	0.	0.	0.	2.28E-03	2.74E-03	7.42E-02	1.78E-02	9.31E-02
29 7.90 0.	0.	5.21E-06	0.	0.	0.	2.29E-03	2.85E-03	7.45E-02	1.78E-02	9.31E-02
30 7.80 0.	0.	5.42E-06	0.	0.	0.	2.30E-03	2.96E-03	7.48E-02	1.78E-02	9.31E-02
31 7.70 0.	0.	4.79E-06	0.	0.	0.	2.32E-03	3.08E-03	7.51E-02	1.79E-02	9.31E-02
32 7.60 0.	0.	4.57E-06	0.	2.36E-10	0.	2.33E-03	3.21E-03	7.54E-02	1.79E-02	9.31E-02
33 7.50 0.	0.	4.26E-06	0.	7.85E-10	0.	2.34E-03	3.34E-03	7.57E-02	1.79E-02	9.31E-02
34 7.40 0.	0.	3.85E-06	0.	6.73E-09	0.	2.35E-03	3.48E-03	7.60E-02	1.79E-02	9.31E-02
35 7.30 0.	0.	3.66E-06	0.	2.63E-08	0.	2.37E-03	3.62E-03	7.63E-02	1.80E-02	9.31E-02
36 7.20 0.	0.	3.33E-06	0.	7.26E-08	0.	2.38E-03	3.78E-03	7.66E-02	1.80E-02	9.31E-02
37 7.10 0.	0.	3.21E-06	0.	2.27E-07	0.	2.40E-03	3.94E-03	7.69E-02	1.80E-02	9.31E-02
38 7.00 0.	0.	2.97E-06	0.	4.45E-07	0.	2.42E-03	4.11E-03	7.72E-02	1.80E-02	9.31E-02
39 6.90 0.	0.	2.74E-06	0.	6.29E-07	0.	2.44E-03	4.30E-03	7.75E-02	1.81E-02	9.31E-02
40 6.80 0.	0.	2.65E-06	0.	1.08E-06	0.	2.46E-03	4.49E-03	7.78E-02	1.81E-02	9.31E-02
41 6.70 0.	0.	2.33E-06	0.	1.06E-06	0.	2.48E-03	4.69E-03	7.81E-02	1.82E-02	9.31E-02
42 6.60 0.	0.	2.11E-06	0.	8.85E-07	0.	2.50E-03	4.91E-03	7.84E-02	1.82E-02	9.31E-02
43 6.50 0.	0.	1.69E-06	0.	1.29E-06	0.	2.52E-03	5.15E-03	7.87E-02	1.83E-02	9.31E-02
44 6.40 0.	0.	1.18E-06	4.25E-09	1.20E-06	0.	2.53E-03	5.39E-03	7.90E-02	1.83E-02	9.31E-02
45 6.30 0.	0.	7.45E-07	2.01E-08	8.74E-07	0.	2.55E-03	5.65E-03	7.93E-02	1.84E-02	9.31E-02
46 6.20 0.	0.	4.17E-07	2.87E-08	1.19E-06	0.	2.57E-03	5.93E-03	7.96E-02	1.86E-02	9.31E-02
47 6.10 0.	0.	1.98E-07	8.23E-08	1.46E-06	0.	2.59E-03	6.23E-03	7.99E-02	1.87E-02	9.31E-02
48 6.00 0.	0.	5.05E-08	7.97E-08	7.26E-07	0.	2.61E-03	6.55E-03	8.02E-02	1.89E-02	9.31E-02
49 5.90 0.	0.	3.62E-09	1.17E-07	7.05E-07	0.	2.61E-03	6.90E-03	8.05E-02	1.91E-02	9.31E-02
50 5.80 0.	0.	9.15E-11	1.65E-07	7.32E-07	0.	2.57E-03	7.26E-03	8.08E-02	1.92E-02	9.31E-02
51 5.70 0.	0.	0.	1.94E-07	8.19E-07	0.	2.42E-03	7.65E-03	8.11E-02	1.94E-02	9.31E-02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1900C. DENSITY (GM/CC) 1.293E-04 (1.0E-01 NORMAL)

PHOTO 02 S-R	N2	N2	N2+	BETA	GAMMA	NO	VIB-ROT	NO	NO	PHOTO-DET (IONS)	FREE-FREE	N	P.E.	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.											
52	5.60	1.09E-15	0.	1.67E-07	1.08E-06	0.	0.	0.	0.	2.25E-03	8.07E-03	3.44E-02	1.96E-02	6.42E-02
53	5.50	0.	0.	2.04E-07	9.96E-07	0.	0.	0.	0.	2.26E-03	8.53E-03	3.51E-02	1.98E-02	6.57E-02
54	5.40	0.	0.	1.89E-07	8.18E-07	0.	0.	0.	0.	2.27E-03	9.01E-03	3.60E-02	2.00E-02	6.73E-02
55	5.30	0.	0.	1.93E-07	1.03E-06	0.	0.	0.	0.	2.29E-03	9.54E-03	3.70E-02	2.03E-02	6.91E-02
56	5.20	0.	0.	2.09E-07	7.87E-07	0.	0.	0.	0.	2.30E-03	1.01E-02	3.79E-02	2.06E-02	7.10E-02
57	5.10	0.	0.	2.09E-07	1.01E-06	0.	0.	0.	0.	2.32E-03	1.07E-02	3.91E-02	2.10E-02	7.31E-02
58	5.00	1.51E-08	0.	1.92E-07	9.53E-07	0.	0.	0.	0.	2.34E-03	1.14E-02	4.03E-02	2.13E-02	7.54E-02
59	4.90	3.64E-08	0.	2.14E-07	1.04E-06	0.	0.	0.	0.	2.36E-03	1.21E-02	4.17E-02	2.17E-02	7.79E-02
60	4.80	6.94E-08	0.	2.30E-07	9.83E-07	0.	0.	0.	0.	2.38E-03	1.29E-02	4.32E-02	2.22E-02	8.06E-02
61	4.70	9.42E-08	0.	2.31E-07	8.95E-07	0.	0.	0.	0.	2.40E-03	1.37E-02	4.48E-02	2.28E-02	8.37E-02
62	4.60	1.31E-07	0.	2.39E-07	8.12E-07	0.	0.	0.	0.	2.42E-03	1.47E-02	4.66E-02	2.34E-02	8.71E-02
63	4.50	1.38E-07	0.	2.20E-07	6.12E-07	0.	0.	0.	0.	2.44E-03	1.57E-02	4.90E-02	2.40E-02	9.11E-02
64	4.40	1.45E-07	0.	2.21E-07	4.20E-07	0.	0.	0.	0.	2.46E-03	1.68E-02	5.14E-02	2.46E-02	9.53E-02
65	4.30	1.41E-07	0.	2.12E-07	2.65E-07	0.	0.	0.	0.	2.48E-03	1.80E-02	5.41E-02	2.53E-02	9.99E-02
66	4.20	1.32E-07	0.	2.23E-07	1.84E-07	0.	0.	0.	0.	2.50E-03	1.93E-02	5.68E-02	2.60E-02	1.05E-01
67	4.10	1.24E-07	0.	2.20E-07	5.16E-08	0.	0.	0.	0.	2.51E-03	2.08E-02	5.95E-02	2.60E-02	1.09E-01
68	4.00	1.15E-07	0.	2.13E-07	3.88E-08	0.	0.	0.	0.	2.52E-03	2.24E-02	6.22E-02	1.17E-02	9.88E-02
69	3.90	9.85E-08	0.	1.98E-07	1.46E-08	0.	0.	0.	0.	2.51E-03	2.42E-02	6.10E-02	1.20E-02	9.98E-02
70	3.80	1.08E-07	0.	2.13E-07	0.	0.	0.	0.	0.	2.50E-03	2.62E-02	6.18E-02	1.26E-02	1.03E-01
71	3.70	9.75E-08	0.	1.84E-07	0.	0.	0.	0.	0.	2.46E-03	2.84E-02	5.13E-02	1.37E-02	9.59E-02
72	3.60	8.79E-08	0.	1.99E-07	0.	0.	0.	0.	0.	2.30E-03	3.08E-02	5.54E-02	1.50E-02	1.04E-01
73	3.50	8.26E-08	0.	1.58E-07	0.	0.	0.	0.	0.	2.11E-03	3.36E-02	5.87E-02	1.65E-02	1.11E-01
74	3.40	7.62E-08	0.	1.78E-07	0.	0.	0.	0.	0.	1.21E-03	3.67E-02	6.52E-02	1.82E-02	1.21E-01
75	3.30	6.12E-08	0.	1.59E-05	1.43E-07	0.	0.	0.	0.	1.22E-03	4.01E-02	7.20E-02	1.99E-02	1.33E-01
76	3.20	5.37E-08	0.	9.72E-05	1.51E-07	0.	0.	0.	0.	1.22E-03	4.41E-02	7.87E-02	2.17E-02	1.46E-01
77	3.10	5.18E-08	0.	2.51E-05	1.44E-07	0.	0.	0.	0.	1.22E-03	4.86E-02	8.57E-02	2.35E-02	1.59E-01
78	3.00	4.67E-08	0.	5.70E-05	1.37E-07	0.	0.	0.	0.	1.22E-03	5.37E-02	9.27E-02	2.53E-02	1.73E-01
79	2.90	3.95E-08	0.	3.11E-05	1.05E-07	0.	0.	0.	0.	1.23E-03	5.95E-02	1.00E-01	2.73E-02	1.88E-01
80	2.80	4.14E-08	0.	2.08E-05	7.40E-08	0.	0.	0.	0.	1.23E-03	6.63E-02	1.09E-01	2.95E-02	2.06E-01
81	2.70	2.69E-08	0.	2.59E-07	2.69E-05	4.10E-08	0.	0.	0.	1.23E-03	7.40E-02	1.18E-01	3.20E-02	2.26E-01
82	2.60	1.29E-08	0.	1.25E-07	2.78E-06	1.82E-08	0.	0.	0.	1.23E-03	8.31E-02	1.29E-01	3.45E-02	2.47E-01
83	2.50	9.08E-10	0.	1.33E-08	2.70E-06	4.38E-09	0.	0.	0.	1.23E-03	9.36E-02	1.47E-01	2.13E-02	2.63E-01
84	2.40	0.	5.96E-07	2.11E-06	4.70E-10	0.	0.	0.	0.	1.23E-03	1.06E-01	1.71E-01	2.50E-02	3.03E-01
85	2.30	0.	1.80E-06	0.	0.	0.	0.	0.	0.	1.22E-03	1.21E-01	1.49E-01	2.98E-02	3.01E-01
86	2.20	0.	4.74E-06	0.	0.	0.	0.	0.	0.	1.21E-03	1.38E-01	1.76E-01	3.56E-02	3.51E-01
87	2.10	0.	4.92E-06	0.	0.	0.	0.	0.	0.	1.21E-03	1.59E-01	2.05E-01	4.15E-02	4.07E-01
88	2.00	0.	9.76E-06	0.	0.	0.	0.	0.	0.	1.17E-03	1.85E-01	2.34E-01	4.73E-02	4.68E-01
89	1.90	0.	1.20E-05	0.	0.	0.	0.	0.	0.	1.12E-03	2.16E-01	2.68E-01	5.51E-02	5.41E-01
90	1.80	0.	1.02E-05	0.	0.	0.	0.	0.	0.	1.08E-03	2.55E-01	3.21E-01	6.69E-02	6.44E-01
91	1.70	0.	1.17E-05	0.	0.	0.	0.	0.	0.	1.01E-03	3.03E-01	3.86E-01	8.14E-02	7.72E-01
92	1.60	0.	8.77E-06	0.	0.	0.	0.	0.	0.	8.58E-04	3.66E-01	4.51E-01	9.59E-02	9.14E-01
93	1.50	0.	1.00E-05	0.	0.	0.	0.	0.	0.	3.90E-04	4.47E-01	5.85E-01	1.16E-01	1.15E-00
94	1.40	0.	9.92E-06	0.	0.	0.	0.	0.	0.	0.	5.54E-01	7.31E-01	1.39E-01	1.42E-00
95	1.30	0.	7.60E-06	0.	0.	0.	0.	0.	0.	0.	6.95E-01	9.74E-01	1.84E-01	1.85E-00
96	1.20	0.	7.26E-06	0.	0.	0.	0.	0.	0.	0.	8.86E-01	1.07E-00	1.85E-01	2.15E-00
97	1.10	0.	6.96E-06	0.	0.	0.	0.	1.02E-11	0.	0.	1.15E-00	1.33E-00	2.32E-01	2.71E-00
98	1.00	0.	6.39E-06	0.	0.	0.	0.	1.57E-10	0.	0.	1.55E-00	1.61E-00	2.64E-01	3.42E-00
99	0.90	0.	5.25E-06	0.	0.	0.	0.	1.83E-10	0.	0.	2.14E-00	1.85E-00	3.10E-01	4.30E-00
100	0.80	0.	2.47E-06	0.	0.	0.	0.	3.98E-09	0.	0.	3.08E-00	2.13E-00	3.57E-01	5.57E-00
101	0.70	0.	5.77E-07	0.	0.	0.	0.	3.66E-09	0.	0.	4.66E-00	2.31E-00	3.67E-01	7.33E-00
102	0.60	0.	1.15E-07	0.	0.	0.	0.	1.18E-08	0.	0.	7.52E-00	2.58E-00	4.10E-01	1.05E-01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 19000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY U2 S-R RAIDS E.V.	U2 S-R CONT.	U2 S-R H H.O. 1	NO BETA	NO GAMMA	NO 2	PHOTO-DET (IONS)	FREE-FREE N	P.E.	NO P.E.	TOTAL AIR
1 10.70 0.	0.	2.31E-08	0.	0.	0.	1.30E-05	3.46E-05	4.76E-02	6.89E-04	4.83E-02
2 10.60 0.	0.	2.11E-08	0.	0.	0.	1.30E-05	3.56E-05	2.04E-03	6.86E-04	2.77E-03
3 10.50 0.	0.	2.14E-08	0.	0.	0.	1.30E-05	3.67E-05	2.05E-03	6.83E-04	2.78E-03
4 10.40 0.	0.	2.04E-08	0.	0.	0.	1.30E-05	3.77E-05	2.05E-03	6.80E-04	2.78E-03
5 10.30 0.	0.	1.79E-08	0.	0.	0.	1.30E-05	3.89E-05	2.06E-03	6.77E-04	2.79E-03
6 10.20 0.	0.	1.86E-08	0.	0.	0.	1.31E-05	4.00E-05	2.06E-03	6.75E-04	2.79E-03
7 10.10 0.	0.	1.75E-08	0.	0.	0.	1.31E-05	4.13E-05	2.06E-03	6.72E-04	2.79E-03
8 10.00 0.	0.	1.55E-08	0.	0.	0.	1.31E-05	4.25E-05	2.05E-03	6.69E-04	2.77E-03
9 9.90 0.	0.	1.59E-08	0.	0.	0.	1.31E-05	4.38E-05	2.05E-03	6.66E-04	2.77E-03
10 9.80 0.	0.	1.50E-08	0.	0.	0.	1.31E-05	4.52E-05	2.05E-03	6.63E-04	2.78E-03
11 9.70 0.	0.	1.31E-08	0.	0.	0.	1.32E-05	4.66E-05	2.06E-03	6.61E-04	2.78E-03
12 9.60 0.	0.	1.42E-08	0.	0.	0.	1.32E-05	4.81E-05	2.06E-03	6.58E-04	2.78E-03
13 9.50 0.	0.	1.16E-08	0.	0.	0.	1.33E-05	4.97E-05	2.07E-03	6.55E-04	2.79E-03
14 9.40 0.	0.	1.19E-08	0.	0.	0.	1.33E-05	5.13E-05	2.08E-03	6.52E-04	2.79E-03
15 9.30 0.	0.	9.97E-09	0.	0.	0.	1.34E-05	5.30E-05	2.09E-03	6.47E-04	2.81E-03
16 9.20 0.	0.	1.03E-08	0.	0.	0.	1.34E-05	5.47E-05	2.09E-03	6.44E-04	1.51E-03
17 9.10 0.	0.	9.38E-09	0.	0.	0.	1.35E-05	5.66E-05	7.92E-04	6.41E-04	1.51E-03
18 9.00 0.	0.	8.73E-09	0.	0.	0.	1.35E-05	5.85E-05	7.93E-04	6.39E-04	1.51E-03
19 8.90 0.	0.	8.60E-09	0.	0.	0.	1.36E-05	6.05E-05	7.94E-04	6.36E-04	1.51E-03
20 8.80 0.	0.	7.53E-09	0.	0.	0.	1.36E-05	6.26E-05	7.95E-04	6.34E-04	1.51E-03
21 8.70 0.	0.	6.87E-09	0.	0.	0.	1.37E-05	6.48E-05	7.97E-04	6.31E-04	1.51E-03
22 8.60 0.	0.	6.85E-09	0.	0.	0.	1.37E-05	6.71E-05	7.98E-04	6.29E-04	1.51E-03
23 8.50 0.	0.	5.94E-09	0.	0.	0.	1.38E-05	6.95E-05	8.01E-04	6.27E-04	1.52E-03
24 8.40 0.	0.	5.17E-09	0.	0.	0.	1.38E-05	7.21E-05	8.03E-04	6.26E-04	1.53E-03
25 8.30 0.	0.	4.52E-09	0.	0.	0.	1.39E-05	7.47E-05	8.07E-04	6.27E-04	1.53E-03
26 8.20 0.	0.	4.71E-09	0.	0.	0.	1.40E-05	7.75E-05	8.12E-04	6.27E-04	1.53E-03
27 8.10 0.	0.	4.16E-09	0.	0.	0.	1.41E-05	8.04E-05	8.17E-04	6.28E-04	1.54E-03
28 8.00 0.	0.	3.97E-09	0.	0.	0.	1.41E-05	8.35E-05	8.23E-04	6.29E-04	1.55E-03
29 7.90 0.	0.	3.70E-09	0.	0.	0.	1.42E-05	8.68E-05	8.28E-04	6.30E-04	1.56E-03
30 7.80 0.	0.	3.34E-09	0.	0.	0.	1.43E-05	9.02E-05	8.34E-04	6.31E-04	1.57E-03
31 7.70 0.	0.	2.89E-09	0.	0.	0.	1.43E-05	9.38E-05	8.40E-04	6.32E-04	1.58E-03
32 7.60 0.	0.	2.79E-09	0.	0.	0.	1.44E-05	9.76E-05	8.42E-04	6.33E-04	1.59E-03
33 7.50 0.	0.	2.30E-09	0.	0.	0.	1.45E-05	1.02E-04	8.47E-04	6.34E-04	1.60E-03
34 7.40 0.	0.	2.03E-09	0.	0.	0.	1.46E-05	1.06E-04	8.53E-04	6.35E-04	1.61E-03
35 7.30 0.	0.	1.83E-09	0.	0.	0.	1.47E-05	1.10E-04	8.59E-04	6.36E-04	1.62E-03
36 7.20 0.	0.	1.02E-09	0.	0.	0.	1.48E-05	1.15E-04	8.65E-04	6.37E-04	1.64E-03
37 7.10 0.	0.	1.07E-09	0.	0.	0.	1.49E-05	1.20E-04	8.71E-04	6.38E-04	1.66E-03
38 7.00 0.	0.	1.07E-09	0.	0.	0.	1.50E-05	1.25E-04	8.76E-04	6.39E-04	1.67E-03
39 6.90 0.	0.	1.07E-09	0.	0.	0.	1.51E-05	1.31E-04	8.82E-04	6.40E-04	1.67E-03
40 6.80 0.	0.	1.07E-09	0.	0.	0.	1.53E-05	1.37E-04	8.88E-04	6.42E-04	1.67E-03
41 6.70 0.	0.	1.07E-09	0.	0.	0.	1.54E-05	1.43E-04	8.97E-04	6.44E-04	1.71E-03
42 6.60 0.	0.	1.07E-09	0.	0.	0.	1.55E-05	1.49E-04	9.06E-04	6.46E-04	1.72E-03
43 6.50 0.	0.	1.07E-09	0.	0.	0.	1.56E-05	1.57E-04	9.16E-04	6.48E-04	1.74E-03
44 6.40 0.	0.	1.07E-09	0.	0.	0.	1.57E-05	1.64E-04	9.26E-04	6.51E-04	1.77E-03
45 6.30 0.	0.	1.07E-09	0.	0.	0.	1.59E-05	1.72E-04	9.36E-04	6.57E-04	1.79E-03
46 6.20 0.	0.	1.07E-09	0.	0.	0.	1.60E-05	1.81E-04	9.47E-04	6.63E-04	1.82E-03
47 6.10 0.	0.	1.07E-09	0.	0.	0.	1.61E-05	1.90E-04	9.60E-04	6.68E-04	1.84E-03
48 6.00 0.	0.	1.07E-09	0.	0.	0.	1.61E-05	1.99E-04	9.75E-04	6.74E-04	1.87E-03
49 5.90 0.	0.	1.07E-09	0.	0.	0.	1.59E-05	2.10E-04	9.89E-04	6.79E-04	1.91E-03
50 5.80 0.	0.	1.07E-09	0.	0.	0.	1.59E-05	2.21E-04	1.00E-03	6.85E-04	1.94E-03
51 5.70 0.	0.	1.07E-09	0.	0.	0.	1.49E-05	2.33E-04	1.00E-03	6.85E-04	1.94E-03



PHOTOGRAPHIC BANDS		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-05 (10.0E-03 NORMAL)		FREE-FREE IONS		P.E.		TOTAL AIR		
PHOTOGRAPHIC BANDS	1ST POS.	2ND POS.	N2	N2+	BETA	NO	GAMMA	NO	VIH-ROF	NO	PHOTO-DELETIONS	O+	P.E.	
52	5.60	1.36E-18	0.	0.	0.	1.74E-10	1.12E-09	0.	0.	1.39E-05	2.46E-04	1.02E-03	6.91E-04	1.97E-03
53	5.50	0.	0.	0.	0.	2.12E-10	1.04E-09	0.	0.	1.39E-05	2.59E-04	1.04E-03	6.98E-04	2.01E-03
54	5.40	0.	0.	0.	0.	1.96E-10	8.52E-10	0.	0.	1.40E-05	2.74E-04	1.07E-03	7.07E-04	2.07E-03
55	5.30	0.	0.	0.	0.	2.01E-10	1.07E-09	0.	0.	1.41E-05	2.90E-04	1.10E-03	7.17E-04	2.12E-03
56	5.20	0.	0.	0.	0.	2.17E-10	8.19E-10	0.	0.	1.42E-05	3.08E-04	1.12E-03	7.29E-04	2.17E-03
57	5.10	0.	0.	0.	0.	2.17E-10	1.05E-09	0.	0.	1.43E-05	3.26E-04	1.15E-03	7.42E-04	2.24E-03
58	5.00	1.8E-11	0.	0.	0.	1.99E-10	9.92E-10	0.	0.	1.44E-05	3.47E-04	1.19E-03	7.54E-04	2.30E-03
59	4.90	4.6E-11	0.	0.	0.	2.23E-10	1.09E-09	0.	0.	1.45E-05	3.68E-04	1.23E-03	7.68E-04	2.38E-03
60	4.80	8.67E-11	0.	0.	0.	2.40E-10	1.02E-09	0.	0.	1.47E-05	3.92E-04	1.28E-03	7.84E-04	2.47E-03
61	4.70	1.18E-10	0.	0.	0.	2.41E-10	9.32E-10	0.	0.	1.48E-05	4.18E-04	1.32E-03	8.05E-04	2.56E-03
62	4.60	1.63E-10	0.	0.	0.	2.48E-10	8.46E-10	0.	0.	1.49E-05	4.46E-04	1.38E-03	8.26E-04	2.66E-03
63	4.50	1.72E-10	0.	0.	0.	2.29E-10	6.38E-10	0.	0.	1.50E-05	4.77E-04	1.45E-03	8.48E-04	2.79E-03
64	4.40	1.85E-10	0.	0.	0.	2.30E-10	4.37E-10	0.	0.	1.51E-05	5.11E-04	1.52E-03	8.71E-04	2.92E-03
65	4.30	1.76E-10	0.	0.	0.	2.21E-10	2.76E-10	0.	0.	1.53E-05	5.48E-04	1.60E-03	8.95E-04	3.06E-03
66	4.20	1.65E-10	0.	0.	0.	2.33E-10	1.92E-10	0.	0.	1.54E-05	5.88E-04	1.68E-03	9.19E-04	3.20E-03
67	4.10	1.55E-10	0.	0.	0.	2.29E-10	5.37E-11	0.	0.	1.54E-05	6.33E-04	1.76E-03	9.19E-04	3.33E-03
68	4.00	1.44E-10	0.	0.	0.	2.22E-10	4.04E-11	0.	0.	1.55E-05	6.82E-04	1.84E-03	9.43E-04	3.45E-03
69	3.90	1.23E-10	0.	0.	0.	2.06E-10	1.52E-11	0.	0.	1.54E-05	7.36E-04	1.80E-03	9.26E-04	3.58E-03
70	3.80	1.35E-10	0.	0.	0.	2.22E-10	0.	0.	0.	1.54E-05	7.96E-04	1.83E-03	9.44E-04	3.68E-03
71	3.70	1.21E-10	0.	0.	0.	1.91E-10	0.	0.	0.	1.51E-05	8.63E-04	1.52E-03	8.86E-04	3.82E-03
72	3.60	1.10E-10	0.	0.	0.	2.73E-09	2.69E-07	0.	0.	1.42E-05	9.38E-04	1.64E-03	9.32E-04	3.12E-03
73	3.50	1.03E-10	0.	0.	0.	7.52E-09	5.01E-07	0.	0.	1.30E-05	1.02E-03	1.74E-03	9.84E-04	3.36E-03
74	3.40	9.52E-11	0.	0.	0.	4.85E-09	7.89E-08	0.	0.	7.49E-06	1.12E-03	1.93E-03	6.44E-04	3.70E-03
75	3.30	7.65E-11	0.	0.	0.	4.97E-09	2.98E-07	0.	0.	7.50E-06	1.22E-03	2.13E-03	7.04E-04	4.06E-03
76	3.20	6.71E-11	0.	0.	0.	3.29E-09	4.83E-07	0.	0.	7.51E-06	1.34E-03	2.33E-03	7.67E-04	4.45E-03
77	3.10													

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS		TEMPERATURE (DEGREES K)		19000.		DENSITY (GM/CC)		1.293E-06		(1.0.0E-04 NORMAL)		FREE-FREE (IONS)		U		TOTAL AIR	
E.V.		O2 S-R		N2 R-H		NO		NO		NO		PHOTO-DET (IONS)		N		P.E.	
CONT.		NO. 1		NO		BETA		GAMMA		2		2		P.E.		P.E.	
1	10.70	0.	0.	4.13E-12	0.	0.	0.	0.	0.	0.	0.	2.18E-08	4.72E-07	2.96E-05	9.95E-06	4.00E-05	4.00E-05
2	10.60	0.	0.	3.77E-12	0.	0.	0.	0.	0.	0.	0.	2.19E-08	4.86E-07	2.97E-05	9.90E-06	4.02E-05	4.02E-05
3	10.50	0.	0.	3.82E-12	0.	0.	0.	0.	0.	0.	0.	2.19E-08	5.00E-07	2.99E-05	9.86E-06	4.03E-05	4.03E-05
4	10.40	0.	0.	3.64E-12	0.	0.	0.	0.	0.	0.	0.	2.19E-08	5.15E-07	3.00E-05	9.82E-06	4.04E-05	4.04E-05
5	10.30	0.	0.	3.20E-12	0.	0.	0.	0.	0.	0.	0.	2.19E-08	5.30E-07	3.02E-05	9.78E-06	4.05E-05	4.05E-05
6	10.20	0.	0.	3.31E-12	0.	0.	0.	0.	0.	0.	0.	2.20E-08	5.46E-07	3.03E-05	9.74E-06	4.06E-05	4.06E-05
7	10.10	0.	0.	3.13E-12	0.	0.	0.	0.	0.	0.	0.	2.20E-08	5.63E-07	3.03E-05	9.70E-06	4.06E-05	4.06E-05
8	10.00	0.	0.	2.77E-12	0.	0.	0.	0.	0.	0.	0.	2.20E-08	5.80E-07	2.79E-05	9.66E-06	3.82E-05	3.82E-05
9	9.90	0.	0.	2.84E-12	0.	0.	0.	0.	0.	0.	0.	2.21E-08	5.98E-07	2.80E-05	9.62E-06	3.82E-05	3.82E-05
10	9.80	0.	0.	2.69E-12	0.	0.	0.	0.	0.	0.	0.	2.21E-08	6.16E-07	2.81E-05	9.58E-06	3.83E-05	3.83E-05
11	9.70	0.	0.	2.34E-12	0.	0.	0.	0.	0.	0.	0.	2.22E-08	6.36E-07	2.81E-05	9.54E-06	3.83E-05	3.83E-05
12	9.60	0.	0.	2.53E-12	0.	0.	0.	0.	0.	0.	0.	2.22E-08	6.56E-07	2.82E-05	9.50E-06	3.84E-05	3.84E-05
13	9.50	0.	0.	2.18E-12	0.	0.	0.	0.	0.	0.	0.	2.22E-08	6.77E-07	2.83E-05	9.46E-06	3.85E-05	3.85E-05
14	9.40	0.	0.	2.07E-12	0.	0.	0.	0.	0.	0.	0.	2.23E-08	6.99E-07	2.84E-05	9.42E-06	3.85E-05	3.85E-05
15	9.30	0.	0.	1.78E-12	0.	0.	0.	0.	0.	0.	0.	2.24E-08	7.22E-07	2.85E-05	9.38E-06	3.86E-05	3.86E-05
16	9.20	0.	0.	1.83E-12	0.	0.	0.	0.	0.	0.	0.	2.25E-08	7.46E-07	2.86E-05	9.34E-06	3.87E-05	3.87E-05
17	9.10	0.	0.	1.67E-12	0.	0.	0.	0.	0.	0.	0.	2.26E-08	7.71E-07	1.13E-05	9.30E-06	2.14E-05	2.14E-05
18	9.00	0.	0.	1.56E-12	0.	0.	0.	0.	0.	0.	0.	2.27E-08	8.25E-07	1.13E-05	9.23E-06	2.14E-05	2.14E-05
19	8.90	0.	0.	1.54E-12	0.	0.	0.	0.	0.	0.	0.	2.28E-08	8.54E-07	1.13E-05	9.19E-06	2.14E-05	2.14E-05
20	8.80	0.	0.	1.34E-12	0.	0.	0.	0.	0.	0.	0.	2.29E-08	8.84E-07	1.13E-05	9.16E-06	2.14E-05	2.14E-05
21	8.70	0.	0.	1.39E-12	0.	0.	0.	0.	0.	0.	0.	2.30E-08	9.15E-07	1.14E-05	9.12E-06	2.14E-05	2.14E-05
22	8.60	0.	0.	1.23E-12	0.	0.	0.	0.	0.	0.	0.	2.30E-08	9.48E-07	1.14E-05	9.09E-06	2.15E-05	2.15E-05
23	8.50	0.	0.	1.22E-12	0.	0.	0.	0.	0.	0.	0.	2.32E-08	9.83E-07	1.15E-05	9.05E-06	2.15E-05	2.15E-05
24	8.40	0.	0.	1.05E-12	0.	0.	0.	0.	0.	0.	0.	2.33E-08	1.02E-06	1.15E-05	9.04E-06	2.16E-05	2.16E-05
25	8.30	0.	0.	1.06E-12	0.	0.	0.	0.	0.	0.	0.	2.34E-08	1.06E-06	1.16E-05	9.05E-06	2.17E-05	2.17E-05
26	8.20	0.	0.	9.23E-13	0.	0.	0.	0.	0.	0.	0.	2.35E-08	1.10E-06	1.16E-05	9.06E-06	2.18E-05	2.18E-05
27	8.10	0.	0.	9.32E-13	0.	0.	0.	0.	0.	0.	0.	2.36E-08	1.14E-06	1.17E-05	9.07E-06	2.19E-05	2.19E-05
28	8.00	0.	0.	8.07E-13	0.	0.	0.	0.	0.	0.	0.	2.38E-08	1.18E-06	1.18E-05	9.09E-06	2.21E-05	2.21E-05
29	7.90	0.	0.	8.40E-13	0.	0.	0.	0.	0.	0.	0.	2.39E-08	1.23E-06	1.19E-05	9.10E-06	2.22E-05	2.22E-05
30	7.80	0.	0.	7.42E-13	0.	0.	0.	0.	0.	0.	0.	2.40E-08	1.28E-06	1.20E-05	9.12E-06	2.24E-05	2.24E-05
31	7.70	0.	0.	7.08E-13	0.	0.	0.	4.73E-17	0.	0.	0.	2.41E-08	1.33E-06	1.17E-05	9.13E-06	2.21E-05	2.21E-05
32	7.60	0.	0.	6.60E-13	0.	0.	0.	1.58E-16	0.	0.	0.	2.43E-08	1.38E-06	1.17E-05	9.14E-06	2.23E-05	2.23E-05
33	7.50	0.	0.	5.96E-13	0.	0.	0.	1.35E-15	0.	0.	0.	2.44E-08	1.44E-06	1.18E-05	9.16E-06	2.25E-05	2.25E-05
34	7.40	0.	0.	5.68E-13	0.	0.	0.	5.28E-15	0.	0.	0.	2.45E-08	1.50E-06	1.19E-05	9.17E-06	2.26E-05	2.26E-05
35	7.30	0.	0.	5.16E-13	0.	0.	0.	1.46E-14	0.	0.	0.	2.47E-08	1.57E-06	1.21E-05	9.19E-06	2.28E-05	2.28E-05
36	7.20	0.	0.	4.98E-13	0.	0.	0.	4.55E-14	0.	0.	0.	2.49E-08	1.63E-06	1.22E-05	9.20E-06	2.30E-05	2.30E-05
37	7.10	0.	0.	4.60E-13	0.	0.	0.	8.93E-14	0.	0.	0.	2.51E-08	1.71E-06	1.23E-05	9.22E-06	2.32E-05	2.32E-05
38	7.00	0.	0.	4.24E-13	0.	0.	0.	1.26E-13	0.	0.	0.	2.53E-08	1.78E-06	1.24E-05	9.23E-06	2.34E-05	2.34E-05
39	6.90	0.	0.	4.11E-13	0.	0.	0.	2.16E-13	0.	0.	0.	2.55E-08	1.86E-06	1.25E-05	9.25E-06	2.36E-05	2.36E-05
40	6.80	0.	0.	3.62E-13	0.	0.	0.	2.13E-13	0.	0.	0.	2.57E-08	1.95E-06	1.26E-05	9.28E-06	2.38E-05	2.38E-05
41	6.70	0.	0.	3.26E-13	0.	0.	0.	1.78E-13	0.	0.	0.	2.59E-08	2.04E-06	1.27E-05	9.31E-06	2.41E-05	2.41E-05
42	6.60	0.	0.	2.62E-13	0.	0.	0.	2.58E-13	0.	0.	0.	2.61E-08	2.13E-06	1.28E-05	9.34E-06	2.43E-05	2.43E-05
43	6.50	0.	0.	1.83E-13	0.	0.	0.	2.41E-13	0.	0.	0.	2.63E-08	2.24E-06	1.30E-05	9.37E-06	2.46E-05	2.46E-05
44	6.40	0.	0.	1.16E-13	0.	0.	0.	4.03E-15	0.	0.	0.	2.65E-08	2.35E-06	1.32E-05	9.42E-06	2.49E-05	2.49E-05
45	6.30	0.	0.	6.46E-14	0.	0.	0.	5.77E-15	0.	0.	0.	2.67E-08	2.46E-06	1.33E-05	9.50E-06	2.53E-05	2.53E-05
46	6.20	0.	0.	3.06E-14	0.	0.	0.	1.65E-14	0.	0.	0.	2.69E-08	2.59E-06	1.35E-05	9.58E-06	2.57E-05	2.57E-05
47	6.10	0.	0.	7.83E-15	0.	0.	0.	1.60E-14	0.	0.	0.	2.71E-08	2.72E-06	1.37E-05	9.66E-06	2.61E-05	2.61E-05
48	6.00	0.	0.	5.61E-16	0.	0.	0.	2.35E-14	0.	0.	0.	2.71E-08	2.86E-06	1.39E-05	9.74E-06	2.66E-05	2.66E-05
49	5.90	0.	0.	1.42E-17	0.	0.	0.	3.30E-14	0.	0.	0.	2.67E-08	3.01E-06	1.42E-05	9.83E-06	2.70E-05	2.70E-05
50	5.80	0.	0.	0.	0.	0.	0.	3.89E-14	0.	0.	0.	2.51E-08	3.18E-06	1.44E-05	9.91E-06	2.75E-05	2.75E-05
51	5.70	0.	0.	0.	0.	0.	0.	1.64E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON D2 S-R ENERGY BANDS		N2 1ST PUS.	N2 2ND PUS.	N2+ 1ST NEG.	N0 BETA	N0 GAMMA	N0 VIB-ROT	N0 2	U- PHOTO-DET	FREE-FREE (IONS)	N P.E.	D P.E.	TOTAL AIR
52	5.60 2.85E-22	0.	C.	0.	3.35E-14	2.16E-13	0.	0.	2.33E-08	3.35E-06	1.46E-05	1.00E-06	2.80E-05
53	5.50 0.	0.	0.	0.	4.09E-14	2.00E-13	0.	0.	2.34E-08	3.54E-06	1.50E-05	1.01E-05	2.86E-05
54	5.40 0.	0.	0.	0.	3.79E-14	1.64E-13	0.	0.	2.35E-08	3.74E-06	1.54E-05	1.02E-05	2.94E-05
55	5.30 0.	0.	0.	0.	3.88E-14	2.06E-13	0.	0.	2.37E-08	3.96E-06	1.58E-05	1.04E-05	3.02E-05
56	5.20 0.	0.	0.	0.	4.19E-14	1.58E-13	0.	0.	2.39E-08	4.19E-06	1.53E-05	1.05E-05	3.00E-05
57	5.10 0.	0.	0.	0.	4.19E-14	2.02E-13	0.	0.	2.41E-08	4.45E-06	1.57E-05	1.07E-05	3.09E-05
58	5.00 3.91E-15	0.	0.	0.	3.84E-14	1.91E-13	0.	0.	2.43E-08	4.73E-06	1.62E-05	1.09E-05	3.19E-05
59	4.90 9.57E-15	0.	0.	0.	4.30E-14	2.10E-13	0.	0.	2.45E-08	5.02E-06	1.68E-05	1.11E-05	3.29E-05
60	4.80 1.8E-14	0.	0.	0.	4.62E-14	1.97E-13	0.	0.	2.47E-08	5.35E-06	1.74E-05	1.13E-05	3.41E-05
61	4.70 2.45E-14	0.	0.	0.	4.65E-14	1.80E-13	0.	0.	2.49E-08	5.70E-06	1.81E-05	1.16E-05	3.54E-05
62	4.60 3.39E-14	0.	0.	0.	4.79E-14	1.63E-13	0.	0.	2.51E-08	6.09E-06	1.88E-05	1.19E-05	3.69E-05
63	4.50 3.56E-14	0.	4.05E-14	0.	4.41E-14	1.23E-13	0.	0.	2.53E-08	6.51E-06	1.98E-05	1.22E-05	3.86E-05
64	4.40 3.85E-14	0.	1.20E-13	0.	4.43E-14	8.42E-14	0.	0.	2.55E-08	6.96E-06	2.08E-05	1.26E-05	4.03E-05
65	4.30 3.66E-14	0.	4.00E-13	0.	4.25E-14	5.31E-14	0.	0.	2.57E-08	7.47E-06	2.19E-05	1.29E-05	4.23E-05
66	4.20 3.43E-14	0.	1.26E-12	0.	4.44E-14	3.70E-14	0.	0.	2.59E-08	8.02E-06	2.30E-05	1.33E-05	4.43E-05
67	4.10 3.23E-14	0.	5.65E-13	0.	4.41E-14	1.04E-14	0.	0.	2.60E-08	8.63E-06	2.41E-05	1.33E-05	4.60E-05
68	4.00 2.99E-14	0.	1.82E-12	0.	4.27E-14	7.78E-15	0.	0.	2.61E-08	9.30E-06	2.52E-05	1.36E-05	4.74E-05
69	3.90 2.56E-14	0.	8.59E-13	4.32E-11	3.97E-14	2.93E-15	0.	0.	2.60E-08	1.00E-05	2.45E-05	1.36E-05	4.07E-05
70	3.80 2.81E-14	0.	1.38E-12	1.78E-10	4.28E-14	0.	0.	0.	2.59E-08	1.09E-05	2.01E-05	6.42E-06	3.74E-05
71	3.70 2.52E-14	0.	1.42E-12	7.88E-11	3.69E-14	0.	0.	0.	2.55E-08	1.18E-05	2.10E-05	7.02E-05	3.98E-05
72	3.60 2.26E-14	0.	1.02E-12	4.12E-10	3.99E-14	0.	0.	0.	2.39E-08	1.28E-05	2.27E-05	7.69E-06	4.32E-05
73	3.50 2.15E-14	0.	1.34E-12	7.67E-10	3.18E-14	0.	0.	0.	2.18E-08	1.39E-05	2.40E-05	8.44E-06	4.64E-05
74	3.40 1.98E-14	0.	8.67E-13	1.21E-10	3.57E-14	0.	0.	0.	1.26E-08	1.52E-05	2.67E-05	9.31E-06	5.12E-05
75	3.30 1.59E-14	0.	5.87E-13	4.57E-10	2.87E-14	0.	0.	0.	1.26E-08	1.67E-05	2.93E-05	1.02E-05	5.62E-05
76	3.20 1.40E-14	0.	5.87E-13	7.40E-10	3.03E-14	0.	0.	0.	1.26E-08	1.83E-05	3.21E-05	1.11E-05	6.15E-05
77	3.10 1.35E-14	0.	4.58E-13	1.91E-10	2.88E-14	0.	0.	0.	1.27E-08	2.02E-05	3.49E-05	1.20E-05	6.71E-05
78	3.00 1.21E-14	0.	2.82E-13	4.34E-10	2.74E-14	0.	0.	0.	1.27E-08	2.23E-05	3.77E-05	1.29E-05	7.29E-05
79	2.90 1.03E-14	0.	1.78E-13	2.37E-10	2.11E-14	0.	0.	0.	1.27E-08	2.47E-05	4.08E-05	1.39E-05	7.94E-05
80	2.80 1.08E-14	0.	8.56E-14	1.58E-10	1.48E-14	0.	0.	0.	1.27E-08	2.75E-05	4.43E-05	1.51E-05	8.69E-05
81	2.70 7.00E-15	0.	4.02E-14	2.05E-10	8.22E-15	0.	0.	0.	1.27E-08	3.07E-05	4.71E-05	1.63E-05	9.42E-05
82	2.60 3.35E-15	0.	1.94E-14	2.12E-11	3.66E-15	0.	0.	0.	1.27E-08	3.45E-05	5.12E-05	1.76E-05	1.03E-04
83	2.50 2.36E-16	0.	2.06E-15	2.05E-11	6.79E-16	0.	0.	0.	1.27E-08	3.88E-05	5.79E-05	1.05E-05	1.07E-04
84	2.40 0.	9.23E-14	0.	1.41E-11	9.43E-17	0.	0.	0.	1.27E-08	4.40E-05	6.91E-05	1.28E-05	1.06E-04
85	2.30 0.	2.78E-13	0.	0.	0.	0.	0.	0.	1.26E-08	5.01E-05	8.95E-05	1.52E-05	1.25E-04
86	2.20 0.	7.35E-13	0.	0.	0.	0.	0.	0.	1.26E-08	5.74E-05	1.02E-05	1.82E-05	1.46E-04
87	2.10 0.	7.63E-13	0.	0.	0.	0.	0.	0.	1.25E-08	6.62E-05	8.17E-05	2.12E-05	1.69E-04
88	2.00 0.	1.51E-12	0.	0.	0.	0.	0.	0.	1.21E-08	7.68E-05	9.32E-05	2.42E-05	1.94E-04
89	1.90 0.	1.86E-12	0.	0.	0.	0.	0.	0.	1.17E-08	8.97E-05	1.07E-04	2.81E-05	2.24E-04
90	1.80 0.	1.59E-12	0.	0.	0.	0.	0.	0.	1.12E-08	1.06E-04	1.28E-04	3.41E-05	2.68E-04
91	1.70 0.	1.81E-12	0.	0.	0.	0.	0.	0.	1.05E-08	1.26E-04	1.53E-04	4.15E-05	3.21E-04
92	1.60 0.	1.36E-12	0.	0.	0.	0.	0.	0.	8.89E-09	1.52E-04	1.79E-04	4.89E-05	3.80E-04
93	1.50 0.	1.56E-12	0.	0.	0.	0.	0.	0.	4.04E-09	1.86E-04	2.32E-04	5.94E-05	4.77E-04
94	1.40 0.	1.54E-12	0.	0.	0.	0.	0.	0.	0.	2.30E-04	2.76E-04	7.10E-05	5.77E-04
95	1.30 0.	1.18E-12	0.	0.	0.	0.	0.	0.	0.	2.88E-04	3.85E-04	8.81E-05	7.61E-04
96	1.20 0.	1.12E-12	0.	0.	0.	0.	0.	0.	0.	3.68E-04	4.24E-04	9.44E-05	8.86E-04
97	1.10 0.	1.08E-12	0.	0.	0.	0.	2.04E-18	0.	0.	4.79E-04	5.23E-04	1.18E-04	1.12E-03
98	1.00 0.	9.91E-13	0.	0.	0.	0.	3.16E-17	0.	0.	6.41E-04	6.34E-04	1.35E-04	1.41E-03
99	0.90 0.	8.14E-13	0.	0.	0.	0.	8.66E-17	0.	0.	8.88E-04	7.29E-04	1.58E-04	1.78E-03
100	0.80 0.	3.82E-13	0.	0.	0.	0.	3.00E-16	0.	0.	1.28E-03	8.39E-04	1.82E-04	2.30E-03
101	0.70 0.	8.94E-14	0.	0.	0.	0.	7.35E-16	0.	0.	1.93E-03	9.09E-04	1.87E-04	3.03E-03
102	0.60 0.	1.78E-14	0.	0.	0.	0.	2.37E-15	0.	0.	3.12E-03	9.21E-04	2.09E-04	4.25E-03

TEMPERATURE (DEGREES K) 19000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-K CONT.	N2 R-H NO. 1	NG BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	N P.t.	U P.E.	TOTAL AIK
1 10.70 0.		0.	4.42E-16	0.	0.	0.	2.40E-11 5.18E-09	5.60E-07	1.07E-07	6.72E-07
2 10.60 0.		0.	4.04E-16	0.	0.	0.	2.40E-11 5.33E-09	5.66E-07	1.07E-07	6.78E-07
3 10.50 0.		0.	4.10E-16	0.	0.	0.	2.40E-11 5.49E-09	3.44E-07	1.06E-07	4.55E-07
4 10.40 0.		0.	3.91E-16	0.	0.	0.	2.41E-11 5.65E-09	3.45E-07	1.06E-07	4.56E-07
5 10.30 0.		0.	3.43E-16	0.	0.	0.	2.41E-11 5.82E-09	3.45E-07	1.05E-07	4.56E-07
6 10.20 0.		0.	3.55E-16	0.	0.	0.	2.41E-11 5.99E-09	3.47E-07	1.05E-07	4.58E-07
7 10.10 0.		0.	3.36E-16	0.	0.	0.	2.42E-11 6.17E-09	3.48E-07	1.05E-07	4.59E-07
8 10.00 0.		0.	2.97E-16	0.	0.	0.	2.42E-11 6.36E-09	3.50E-07	1.04E-07	4.60E-07
9 9.90 0.		0.	3.05E-16	0.	0.	0.	2.42E-11 6.56E-09	3.52E-07	1.04E-07	4.62E-07
10 9.80 0.		0.	2.88E-16	0.	0.	0.	2.43E-11 6.76E-09	3.53E-07	1.03E-07	4.63E-07
11 9.70 0.		0.	2.51E-16	0.	0.	0.	2.43E-11 6.98E-09	3.55E-07	1.03E-07	4.65E-07
12 9.60 0.		0.	2.71E-16	0.	0.	0.	2.44E-11 7.20E-09	3.56E-07	1.02E-07	4.66E-07
13 9.50 0.		0.	2.33E-16	0.	0.	0.	2.44E-11 7.43E-09	3.58E-07	1.02E-07	4.68E-07
14 9.40 0.		0.	2.22E-16	0.	0.	0.	2.45E-11 7.67E-09	3.60E-07	1.02E-07	4.69E-07
15 9.30 0.		0.	2.28E-16	0.	0.	0.	2.46E-11 7.92E-09	1.83E-07	1.01E-07	2.92E-07
16 9.20 0.		0.	1.91E-16	0.	0.	0.	2.47E-11 8.19E-09	1.84E-07	1.01E-07	2.93E-07
17 9.10 0.		0.	1.96E-16	0.	0.	0.	2.48E-11 8.46E-09	1.85E-07	1.00E-07	2.94E-07
18 9.00 0.		0.	1.80E-16	0.	0.	0.	2.49E-11 8.75E-09	1.86E-07	1.00E-07	2.94E-07
19 8.90 0.		0.	1.67E-16	0.	0.	0.	2.50E-11 9.05E-09	1.87E-07	9.97E-08	2.95E-07
20 8.80 0.		0.	1.65E-16	0.	0.	0.	2.50E-11 9.36E-09	1.88E-07	9.93E-08	2.96E-07
21 8.70 0.		0.	1.44E-16	0.	0.	0.	2.51E-11 9.69E-09	1.89E-07	9.90E-08	2.97E-07
22 8.60 0.		0.	1.49E-16	0.	0.	0.	2.52E-11 1.00E-08	1.90E-07	9.78E-08	2.98E-07
23 8.50 0.		0.	1.31E-16	0.	0.	0.	2.53E-11 1.04E-08	1.91E-07	9.74E-08	2.99E-07
24 8.40 0.		0.	1.31E-16	0.	0.	0.	2.54E-11 1.08E-08	1.93E-07	9.70E-08	3.00E-07
25 8.30 0.		0.	1.12E-16	0.	0.	0.	2.56E-11 1.12E-08	1.94E-07	9.69E-08	3.02E-07
26 8.20 0.		0.	1.14E-16	0.	0.	0.	2.57E-11 1.16E-08	1.96E-07	9.71E-08	3.05E-07
27 8.10 0.		0.	9.89E-17	0.	0.	0.	2.58E-11 1.20E-08	1.57E-07	9.73E-08	2.66E-07
28 8.00 0.		0.	9.99E-17	0.	0.	0.	2.60E-11 1.25E-08	1.59E-07	9.75E-08	2.69E-07
29 7.90 0.		0.	8.65E-17	0.	0.	0.	2.61E-11 1.30E-08	1.62E-07	9.77E-08	2.72E-07
30 7.80 0.		0.	9.01E-17	0.	0.	0.	2.62E-11 1.35E-08	1.64E-07	9.79E-08	2.76E-07
31 7.70 0.		0.	7.96E-17	0.	0.	0.	2.64E-11 1.40E-08	1.67E-07	9.81E-08	2.79E-07
32 7.60 0.		0.	7.60E-17	0.	5.20E-21	0.	2.65E-11 1.46E-08	1.70E-07	9.83E-08	2.83E-07
33 7.50 0.		0.	7.08E-17	0.	1.73E-20	0.	2.66E-11 1.52E-08	1.73E-07	9.85E-08	2.87E-07
34 7.40 0.		0.	6.39E-17	0.	1.49E-19	0.	2.68E-11 1.59E-08	1.76E-07	9.87E-08	2.91E-07
35 7.30 0.		0.	6.09E-17	0.	5.80E-19	0.	2.69E-11 1.65E-08	1.79E-07	9.89E-08	2.95E-07
36 7.20 0.		0.	5.53E-17	0.	1.60E-18	0.	2.71E-11 1.72E-08	1.84E-07	9.91E-08	3.00E-07
37 7.10 0.		0.	5.34E-17	0.	5.01E-18	0.	2.73E-11 1.79E-08	1.88E-07	9.94E-08	3.05E-07
38 7.00 0.	2.35E-20	0.	4.93E-17	0.	9.82E-18	0.	2.75E-11 1.87E-08	1.86E-07	9.99E-08	3.04E-07
39 6.90 0.	4.61E-20	0.	4.55E-17	0.	1.39E-17	0.	2.78E-11 1.95E-08	1.90E-07	9.99E-08	3.09E-07
40 6.80 0.	3.99E-20	0.	4.40E-17	0.	2.30E-17	0.	2.80E-11 2.04E-08	1.94E-07	1.00E-07	3.14E-07
41 6.70 0.	2.92E-20	0.	3.88E-17	0.	2.34E-17	0.	2.82E-11 2.14E-08	1.98E-07	1.01E-07	3.20E-07
42 6.60 0.	1.78E-20	0.	3.50E-17	0.	1.95E-17	0.	2.84E-11 2.24E-08	2.02E-07	1.01E-07	3.25E-07
43 6.50 0.	1.03E-20	0.	2.81E-17	0.	2.84E-17	0.	2.86E-11 2.34E-08	2.07E-07	1.01E-07	3.31E-07
44 6.40 0.	5.94E-21	0.	1.96E-17	9.37E-20	2.65E-17	0.	2.89E-11 2.45E-08	2.11E-07	1.02E-07	3.38E-07
45 6.30 0.	3.47E-21	0.	1.24E-17	4.44E-19	1.93E-17	0.	2.91E-11 2.57E-08	2.16E-07	1.02E-07	3.44E-07
46 6.20 0.	1.57E-21	0.	6.93E-18	6.34E-19	2.62E-17	0.	2.93E-11 2.70E-08	2.20E-07	1.03E-07	3.51E-07
47 6.10 0.	7.26E-22	0.	3.29E-18	1.82E-18	3.22E-17	0.	2.95E-11 2.84E-08	2.25E-07	1.04E-07	3.58E-07
48 6.00 0.	3.04E-22	0.	8.39E-19	1.76E-18	1.60E-17	0.	2.98E-11 2.98E-08	2.31E-07	1.05E-07	3.66E-07
49 5.90 0.	7.51E-23	0.	6.02E-20	2.59E-18	1.56E-17	0.	2.98E-11 3.14E-08	2.36E-07	1.06E-07	3.74E-07
50 5.80 0.	9.56E-24	0.	1.52E-21	3.63E-18	1.61E-17	0.	2.93E-11 3.30E-08	2.42E-07	1.07E-07	3.82E-07
51 5.70 0.	7.05E-25	0.	0.	4.28E-18	1.81E-17	0.	2.75E-11 3.48E-08	1.64E-07	1.06E-07	3.05E-07



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 19000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)																	
PHOTON ENERGY E.V.		O2 S-R CONT.		1/2 H-H NO. 1		NO BETA		NO GAMMA		NO 2		U- PHOTO-DET (IUNS)		FREE-FREE N P.E.		TOTAL AIR P.E.	
1	10.70 0.	0.	0.	4.12E-20	0.	0.	0.	0.	0.	0.	0.	2.89E-14	7.39E-11	8.19E-09	1.31E-09	9.58E-09	
2	10.60 0.	0.	0.	3.77E-20	0.	0.	0.	0.	0.	0.	0.	2.89E-14	7.60E-11	8.24E-09	1.31E-09	9.63E-09	
3	10.50 0.	0.	0.	3.82E-20	0.	0.	0.	0.	0.	0.	0.	2.90E-14	7.83E-11	8.29E-09	1.31E-09	9.68E-09	
4	10.40 0.	0.	0.	3.64E-20	0.	0.	0.	0.	0.	0.	0.	2.90E-14	8.06E-11	8.34E-09	1.30E-09	9.72E-09	
5	10.30 0.	0.	0.	3.19E-20	0.	0.	0.	0.	0.	0.	0.	2.91E-14	8.30E-11	8.39E-09	1.30E-09	9.77E-09	
6	10.20 0.	0.	0.	3.31E-20	0.	0.	0.	0.	0.	0.	0.	2.91E-14	8.54E-11	8.48E-09	1.29E-09	9.85E-09	
7	10.10 0.	0.	0.	3.13E-20	0.	0.	0.	0.	0.	0.	0.	2.91E-14	8.80E-11	8.56E-09	1.29E-09	9.94E-09	
8	10.00 0.	0.	0.	2.77E-20	0.	0.	0.	0.	0.	0.	0.	2.92E-14	9.07E-11	8.65E-09	1.29E-09	1.00E-08	
9	9.90 0.	0.	0.	2.04E-20	0.	0.	0.	0.	0.	0.	0.	2.92E-14	9.35E-11	8.74E-09	1.28E-09	1.01E-08	
10	9.80 0.	0.	0.	2.69E-20	0.	0.	0.	0.	0.	0.	0.	2.93E-14	9.64E-11	8.83E-09	1.28E-09	1.02E-08	
11	9.70 0.	0.	0.	2.34E-20	0.	0.	0.	0.	0.	0.	0.	2.93E-14	9.95E-11	8.91E-09	1.28E-09	1.03E-08	
12	9.60 0.	0.	0.	2.53E-20	0.	0.	0.	0.	0.	0.	0.	2.94E-14	1.03E-10	9.00E-09	1.27E-09	1.04E-08	
13	9.50 0.	0.	0.	2.18E-20	0.	0.	0.	0.	0.	0.	0.	2.94E-14	1.06E-10	9.08E-09	1.27E-09	1.05E-08	
14	9.40 0.	0.	0.	2.07E-20	0.	0.	0.	0.	0.	0.	0.	2.96E-14	1.09E-10	9.17E-09	1.27E-09	1.05E-08	
15	9.30 0.	0.	0.	2.13E-20	0.	0.	0.	0.	0.	0.	0.	2.97E-14	1.13E-10	9.26E-09	1.27E-09	1.05E-08	
16	9.20 0.	0.	0.	1.78E-20	0.	0.	0.	0.	0.	0.	0.	2.98E-14	1.17E-10	9.35E-09	1.26E-09	1.05E-08	
17	9.10 0.	0.	0.	1.83E-20	0.	0.	0.	0.	0.	0.	0.	2.99E-14	1.21E-10	9.44E-09	1.26E-09	1.05E-08	
18	9.00 0.	0.	0.	1.67E-20	0.	0.	0.	0.	0.	0.	0.	3.00E-14	1.25E-10	9.53E-09	1.26E-09	1.05E-08	
19	8.90 0.	0.	0.	1.56E-20	0.	0.	0.	0.	0.	0.	0.	3.01E-14	1.29E-10	9.62E-09	1.26E-09	1.05E-08	
20	8.80 0.	0.	0.	1.54E-20	0.	0.	0.	0.	0.	0.	0.	3.02E-14	1.33E-10	9.71E-09	1.26E-09	1.05E-08	
21	8.70 0.	0.	0.	1.34E-20	0.	0.	0.	0.	0.	0.	0.	3.03E-14	1.38E-10	9.80E-09	1.26E-09	1.05E-08	
22	8.60 0.	0.	0.	1.39E-20	0.	0.	0.	0.	0.	0.	0.	3.04E-14	1.43E-10	9.89E-09	1.26E-09	1.05E-08	
23	8.50 0.	0.	0.	1.23E-20	0.	0.	0.	0.	0.	0.	0.	3.05E-14	1.48E-10	9.98E-09	1.26E-09	1.05E-08	
24	8.40 0.	0.	0.	1.22E-20	0.	0.	0.	0.	0.	0.	0.	3.07E-14	1.54E-10	1.00E-08	1.26E-09	1.05E-08	
25	8.30 0.	0.	0.	1.04E-20	0.	0.	0.	0.	0.	0.	0.	3.08E-14	1.59E-10	1.01E-08	1.26E-09	1.05E-08	
26	8.20 0.	0.	0.	1.06E-20	0.	0.	0.	0.	0.	0.	0.	3.10E-14	1.65E-10	1.02E-08	1.26E-09	1.05E-08	
27	8.10 0.	0.	0.	9.22E-21	0.	0.	0.	0.	0.	0.	0.	3.12E-14	1.71E-10	1.03E-08	1.26E-09	1.05E-08	
28	8.00 0.	0.	0.	9.31E-21	0.	0.	0.	0.	0.	0.	0.	3.13E-14	1.78E-10	1.04E-08	1.26E-09	1.05E-08	
29	7.90 0.	0.	0.	8.07E-21	0.	0.	0.	0.	0.	0.	0.	3.15E-14	1.85E-10	1.05E-08	1.26E-09	1.05E-08	
30	7.80 0.	0.	0.	8.40E-21	0.	0.	0.	0.	0.	0.	0.	3.16E-14	1.92E-10	1.06E-08	1.26E-09	1.05E-08	
31	7.70 0.	0.	0.	7.42E-21	0.	0.	0.	0.	0.	0.	0.	3.18E-14	2.00E-10	1.07E-08	1.26E-09	1.05E-08	
32	7.60 0.	0.	0.	7.08E-21	0.	0.	0.	0.	0.	0.	0.	3.19E-14	2.08E-10	1.08E-08	1.26E-09	1.05E-08	
33	7.50 0.	0.	0.	6.60E-21	0.	0.	0.	0.	0.	0.	0.	3.21E-14	2.16E-10	1.09E-08	1.26E-09	1.05E-08	
34	7.40 0.	0.	0.	5.96E-21	0.	0.	0.	0.	0.	0.	0.	3.23E-14	2.25E-10	1.10E-08	1.26E-09	1.05E-08	
35	7.30 0.	0.	0.	5.68E-21	0.	0.	0.	0.	0.	0.	0.	3.25E-14	2.35E-10	1.11E-08	1.26E-09	1.05E-08	
36	7.20 0.	0.	0.	5.15E-21	0.	0.	0.	0.	0.	0.	0.	3.27E-14	2.45E-10	1.12E-08	1.26E-09	1.05E-08	
37	7.10 0.	0.	0.	4.98E-21	0.	0.	0.	0.	0.	0.	0.	3.29E-14	2.55E-10	1.13E-08	1.26E-09	1.05E-08	
38	7.00 2.8E-24	0.	0.	4.59E-21	0.	0.	0.	0.	0.	0.	0.	3.32E-14	2.66E-10	1.14E-08	1.26E-09	1.05E-08	
39	6.90 5.48E-24	0.	0.	4.24E-21	0.	0.	0.	0.	0.	0.	0.	3.34E-14	2.78E-10	1.15E-08	1.26E-09	1.05E-08	
40	6.80 4.74E-24	0.	0.	4.10E-21	0.	0.	0.	0.	0.	0.	0.	3.37E-14	2.91E-10	1.16E-08	1.26E-09	1.05E-08	
41	6.70 3.47E-24	0.	0.	3.62E-21	0.	0.	0.	0.	0.	0.	0.	3.40E-14	3.04E-10	1.17E-08	1.26E-09	1.05E-08	
42	6.60 2.12E-24	0.	0.	3.26E-21	0.	0.	0.	0.	0.	0.	0.	3.43E-14	3.18E-10	1.18E-08	1.26E-09	1.05E-08	
43	6.50 1.23E-24	0.	0.	2.62E-21	0.	0.	0.	0.	0.	0.	0.	3.45E-14	3.33E-10	1.19E-08	1.26E-09	1.05E-08	
44	6.40 7.07E-25	0.	0.	1.83E-21	0.	0.	0.	0.	0.	0.	0.	3.48E-14	3.49E-10	1.20E-08	1.26E-09	1.05E-08	
45	6.30 4.12E-25	0.	0.	1.15E-21	0.	0.	0.	0.	0.	0.	0.	3.51E-14	3.66E-10	1.21E-08	1.26E-09	1.05E-08	
46	6.20 1.87E-25	0.	0.	6.46E-22	0.	0.	0.	0.	0.	0.	0.	3.53E-14	3.84E-10	1.22E-08	1.26E-09	1.05E-08	
47	6.10 8.63E-26	0.	0.	3.06E-22	0.	0.	0.	0.	0.	0.	0.	3.56E-14	4.04E-10	1.23E-08	1.26E-09	1.05E-08	
48	6.00 3.62E-26	0.	0.	7.82E-23	0.	0.	0.	0.	0.	0.	0.	3.59E-14	4.24E-10	1.24E-08	1.26E-09	1.05E-08	
49	5.90 8.92E-27	0.	0.	5.61E-24	0.	0.	0.	0.	0.	0.	0.	3.59E-14	4.46E-10	1.25E-08	1.26E-09	1.05E-08	
50	5.80 1.14E-27	0.	0.	1.42E-25	0.	0.	0.	0.	0.	0.	0.	3.53E-14	4.70E-10	1.26E-08	1.26E-09	1.05E-08	
51	5.70 8.34E-29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.32E-14	4.95E-10	1.27E-08	1.26E-09	1.05E-08	

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)	DENSITY (GM/CC) 1.293E-08 (1.0E-05 NORMAL)
TEMPERATURE (DEGREES K) 19000.	

NO	PHOTON ENERGY	O2 S-R BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	VIB-ROT	NO 2	O- PHOTO-DET (IONS)		FREE-FREE		N P.E.		O P.E.		TOTAL AIR
52	5.60	3.79E-30	0.	0.	0.	3.88E-22	2.50E-21	0.	0.	3.09E-14	5.23E-10	3.83E-09	1.24E-09	5.60E-09	5.60E-09	5.60E-09	5.60E-09	5.60E-09
53	5.50	0.	0.	0.	0.	4.74E-22	2.31E-21	0.	0.	3.10E-14	5.52E-10	4.01E-09	1.26E-09	5.82E-09	5.82E-09	5.82E-09	5.82E-09	5.82E-09
54	5.40	0.	0.	0.	0.	4.38E-22	1.90E-21	0.	0.	3.12E-14	5.83E-10	4.21E-09	1.28E-09	6.07E-09	6.07E-09	6.07E-09	6.07E-09	6.07E-09
55	5.30	0.	0.	0.	0.	4.49E-22	2.38E-21	0.	0.	3.14E-14	6.18E-10	4.41E-09	1.30E-09	6.33E-09	6.33E-09	6.33E-09	6.33E-09	6.33E-09
56	5.20	0.	0.	0.	0.	4.85E-22	1.83E-21	0.	0.	3.16E-14	6.54E-10	4.61E-09	1.33E-09	6.59E-09	6.59E-09	6.59E-09	6.59E-09	6.59E-09
57	5.10	0.	0.	0.	0.	4.85E-22	2.34E-21	0.	0.	3.18E-14	6.94E-10	4.81E-09	1.32E-09	6.82E-09	6.82E-09	6.82E-09	6.82E-09	6.82E-09
58	5.00	5.25E-23	0.	0.	0.	4.45E-22	2.21E-21	0.	0.	3.21E-14	7.37E-10	5.02E-09	1.34E-09	7.10E-09	7.10E-09	7.10E-09	7.10E-09	7.10E-09
59	4.90	1.28E-22	0.	0.	0.	4.97E-22	2.43E-21	0.	0.	3.24E-14	7.83E-10	5.24E-09	1.37E-09	7.39E-09	7.39E-09	7.39E-09	7.39E-09	7.39E-09
60	4.80	2.42E-22	0.	0.	0.	5.35E-22	2.20E-21	0.	0.	3.27E-14	8.34E-10	5.46E-09	1.40E-09	7.70E-09	7.70E-09	7.70E-09	7.70E-09	7.70E-09
61	4.70	3.28E-22	0.	0.	0.	5.38E-22	2.08E-21	0.	0.	3.29E-14	8.89E-10	5.76E-09	1.44E-09	8.09E-09	8.09E-09	8.09E-09	8.09E-09	8.09E-09
62	4.60	4.55E-22	0.	0.	0.	5.54E-22	1.89E-21	0.	0.	3.32E-14	9.49E-10	6.14E-09	1.48E-09	8.58E-09	8.58E-09	8.58E-09	8.58E-09	8.58E-09
63	4.50	4.81E-22	0.	4.05E-22	0.	5.10E-22	1.42E-21	0.	0.	3.34E-14	1.01E-09	6.55E-09	1.53E-09	9.09E-09	9.09E-09	9.09E-09	9.09E-09	9.09E-09
64	4.40	5.16E-22	0.	1.20E-21	0.	5.13E-22	9.75E-22	0.	0.	3.37E-14	1.09E-09	6.96E-09	1.57E-09	9.61E-09	9.61E-09	9.61E-09	9.61E-09	9.61E-09
65	4.30	4.91E-22	0.	4.00E-21	0.	4.93E-22	6.15E-22	0.	0.	3.40E-14	1.16E-09	7.37E-09	1.58E-09	1.01E-08	1.01E-08	1.01E-08	1.01E-08	1.01E-08
66	4.20	4.60E-22	0.	1.26E-20	0.	5.19E-22	4.20E-22	0.	0.	3.43E-14	1.25E-09	7.84E-09	1.71E-10	9.86E-09	9.86E-09	9.86E-09	9.86E-09	9.86E-09
67	4.10	4.34E-22	0.	5.64E-21	0.	5.10E-22	1.20E-22	0.	0.	3.44E-14	1.34E-09	8.18E-09	1.80E-10	1.03E-08	1.03E-08	1.03E-08	1.03E-08	1.03E-08
68	4.00	4.02E-22	0.	1.82E-20	0.	4.95E-22	9.01E-23	0.	0.	3.45E-14	1.45E-09	8.12E-09	1.83E-10	1.04E-08	1.04E-08	1.04E-08	1.04E-08	1.04E-08
69	3.90	3.43E-22	0.	8.58E-21	3.78E-17	4.60E-22	3.39E-23	0.	0.	3.44E-14	1.56E-09	8.58E-09	1.87E-10	1.10E-08	1.10E-08	1.10E-08	1.10E-08	1.10E-08
70	3.80	3.77E-22	0.	1.38E-20	1.56E-16	4.96E-22	0.											

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		1900C.		DENSITY (GM/CC) 1.293E-09 (1.0E-06 NORMAL)		NO		O-		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON O2 S-R		U2 S-R		NO. 1		NO		NO		PHOTU-DET (IONS)		P.E.		P.E.		P.E.	
ENERGY BANDS		CONT.		NO. 1		BETA		GAMMA		2		P.E.		P.E.		P.E.	
E.V.																	
1	1.70	0.	0.	1.87E-24	0.	0.	0.	0.	0.	0.	0.	4.46E-17	1.70E-12	3.01E-10	2.82E-11	3.31E-10	3.31E-10
2	10.60	0.	0.	1.71E-24	0.	0.	0.	0.	0.	0.	0.	4.47E-17	1.75E-12	3.03E-10	2.82E-11	3.33E-10	3.33E-10
3	10.50	0.	0.	1.74E-24	0.	0.	0.	0.	0.	0.	0.	4.48E-17	1.80E-12	3.05E-10	2.81E-11	3.35E-10	3.35E-10
4	10.40	0.	0.	1.65E-24	0.	0.	0.	0.	0.	0.	0.	4.48E-17	1.85E-12	3.07E-10	2.81E-11	3.37E-10	3.37E-10
5	10.30	0.	0.	1.45E-24	0.	0.	0.	0.	0.	0.	0.	4.49E-17	1.91E-12	3.10E-10	2.80E-11	3.40E-10	3.40E-10
6	10.20	0.	0.	1.50E-24	0.	0.	0.	0.	0.	0.	0.	4.49E-17	1.97E-12	3.14E-10	2.81E-11	3.44E-10	3.44E-10
7	10.10	0.	0.	1.42E-24	0.	0.	0.	0.	0.	0.	0.	4.50E-17	2.03E-12	3.18E-10	2.82E-11	3.48E-10	3.48E-10
8	10.00	0.	0.	1.26E-24	0.	0.	0.	0.	0.	0.	0.	4.50E-17	2.09E-12	3.22E-10	2.83E-11	3.53E-10	3.53E-10
9	9.90	0.	0.	1.29E-24	0.	0.	0.	0.	0.	0.	0.	4.51E-17	2.15E-12	3.27E-10	2.84E-11	3.57E-10	3.57E-10
10	9.80	0.	0.	1.22E-24	0.	0.	0.	0.	0.	0.	0.	4.52E-17	2.22E-12	3.31E-10	2.85E-11	3.62E-10	3.62E-10
11	9.70	0.	0.	1.06E-24	0.	0.	0.	0.	0.	0.	0.	4.53E-17	2.29E-12	3.35E-10	2.86E-11	3.66E-10	3.66E-10
12	9.60	0.	0.	1.15E-24	0.	0.	0.	0.	0.	0.	0.	4.54E-17	2.36E-12	3.39E-10	2.87E-11	3.70E-10	3.70E-10
13	9.50	0.	0.	9.88E-25	0.	0.	0.	0.	0.	0.	0.	4.55E-17	2.44E-12	3.43E-10	2.88E-11	3.74E-10	3.74E-10
14	9.40	0.	0.	9.40E-25	0.	0.	0.	0.	0.	0.	0.	4.56E-17	2.51E-12	3.46E-10	2.89E-11	3.78E-10	3.78E-10
15	9.30	0.	0.	9.65E-25	0.	0.	0.	0.	0.	0.	0.	4.58E-17	2.60E-12	3.40E-10	2.90E-11	3.71E-10	3.71E-10
16	9.20	0.	0.	8.08E-25	0.	0.	0.	0.	0.	0.	0.	4.60E-17	2.68E-12	3.44E-10	2.91E-11	3.76E-10	3.76E-10
17	9.10	0.	0.	8.31E-25	0.	0.	0.	0.	0.	0.	0.	4.61E-17	2.77E-12	3.48E-10	2.93E-11	3.80E-10	3.80E-10
18	9.00	0.	0.	7.60E-25	0.	0.	0.	0.	0.	0.	0.	4.63E-17	2.87E-12	3.52E-10	2.19E-11	3.77E-10	3.77E-10
19	8.90	0.	0.	7.07E-25	0.	0.	0.	0.	0.	0.	0.	4.65E-17	2.96E-12	3.56E-10	2.11E-11	3.80E-10	3.80E-10
20	8.80	0.	0.	6.97E-25	0.	0.	0.	0.	0.	0.	0.	4.66E-17	3.07E-12	3.60E-10	2.13E-11	3.84E-10	3.84E-10
21	8.70	0.	0.	6.10E-25	0.	0.	0.	0.	0.	0.	0.	4.68E-17	3.17E-12	3.64E-10	2.15E-11	3.89E-10	3.89E-10
22	8.60	0.	0.	6.30E-25	0.	0.	0.	0.	0.	0.	0.	4.70E-17	3.29E-12	3.68E-10	2.17E-11	3.93E-10	3.93E-10
23	8.50	0.	0.	5.56E-25	0.	0.	0.	0.	0.	0.	0.	4.71E-17	3.41E-12	3.72E-10	2.19E-11	3.98E-10	3.98E-10
24	8.40	0.	0.	5.55E-25	0.	0.	0.	0.	0.	0.	0.	4.74E-17	3.53E-12	1.89E-10	2.21E-11	2.14E-10	2.14E-10
25	8.30	0.	0.	4.74E-25	0.	0.	0.	0.	0.	0.	0.	4.76E-17	3.66E-12	1.95E-10	2.24E-11	2.21E-10	2.21E-10
26	8.20	0.	0.	4.81E-25	0.	0.	0.	0.	0.	0.	0.	4.79E-17	3.80E-12	2.03E-10	2.29E-11	2.30E-10	2.30E-10
27	8.10	0.	0.	4.19E-25	0.	0.	0.	0.	0.	0.	0.	4.81E-17	3.94E-12	2.11E-10	2.33E-11	2.38E-10	2.38E-10
28	8.00	0.	0.	4.23E-25	0.	0.	0.	0.	0.	0.	0.	4.84E-17	4.09E-12	2.19E-10	2.38E-11	2.47E-10	2.47E-10
29	7.90	0.	0.	3.66E-25	0.	0.	0.	0.	0.	0.	0.	4.86E-17	4.25E-12	2.27E-10	2.43E-11	2.56E-10	2.56E-10
30	7.80	0.	0.	3.81E-25	0.	0.	0.	0.	0.	0.	0.	4.89E-17	4.41E-12	2.36E-10	2.48E-11	2.65E-10	2.65E-10
31	7.70	0.	0.	3.37E-25	0.	0.	0.	0.	0.	0.	0.	4.91E-17	4.59E-12	2.45E-10	2.52E-11	2.74E-10	2.74E-10
32	7.60	0.	0.	3.21E-25	0.	0.	0.	4.34E-29	0.	0.	0.	4.93E-17	4.77E-12	2.55E-10	2.57E-11	2.85E-10	2.85E-10
33	7.50	0.	0.	3.00E-25	0.	0.	0.	1.45E-28	0.	0.	0.	4.96E-17	4.97E-12	2.64E-10	2.62E-11	2.96E-10	2.96E-10
34	7.40	0.	0.	2.71E-25	0.	0.	0.	1.24E-27	0.	0.	0.	4.99E-17	5.17E-12	2.74E-10	2.68E-11	3.08E-10	3.08E-10
35	7.30	0.	0.	2.58E-25	0.	0.	0.	4.84E-27	0.	0.	0.	5.01E-17	5.39E-12	2.84E-10	2.74E-11	3.24E-10	3.24E-10
36	7.20	0.	0.	2.34E-25	0.	0.	0.	1.34E-26	0.	0.	0.	5.04E-17	5.62E-12	2.95E-10	2.82E-11	3.40E-10	3.40E-10
37	7.10	0.	0.	2.26E-25	0.	0.	0.	4.18E-26	0.	0.	0.	5.08E-17	5.86E-12	3.06E-10	2.91E-11	3.56E-10	3.56E-10
38	7.00	3.87E-28	0.	2.09E-25	0.	0.	0.	8.20E-26	0.	0.	0.	5.12E-17	6.12E-12	3.18E-10	3.00E-11	3.72E-10	3.72E-10
39	6.90	7.54E-28	0.	1.92E-25	0.	0.	0.	1.16E-25	0.	0.	0.	5.17E-17	6.39E-12	3.31E-10	3.09E-11	3.88E-10	3.88E-10
40	6.80	6.56E-28	0.	1.86E-25	0.	0.	0.	1.98E-25	0.	0.	0.	5.21E-17	6.67E-12	3.43E-10	3.18E-11	4.04E-10	4.04E-10
41	6.70	4.8CE-28	0.	1.64E-25	0.	0.	0.	1.95E-25	0.	0.	0.	5.25E-17	6.98E-12	3.56E-10	3.27E-11	4.20E-10	4.20E-10
42	6.60	2.93E-28	0.	1.48E-25	0.	0.	0.	1.63E-25	0.	0.	0.	5.29E-17	7.30E-12	3.62E-10	3.36E-11	4.36E-10	4.36E-10
43	6.50	1.7E-28	0.	1.19E-25	0.	0.	0.	2.37E-25	0.	0.	0.	5.33E-17	7.64E-12	3.77E-10	3.45E-11	4.52E-10	4.52E-10
44	6.40	9.7RE-29	0.	8.30E-26	0.	0.	0.	7.82E-28	0.	0.	0.	5.37E-17	8.01E-12	3.92E-10	3.55E-11	4.68E-10	4.68E-10
45	6.30	5.71E-29	0.	5.24E-26	0.	0.	0.	3.70E-27	0.	0.	0.	5.41E-17	8.40E-12	4.06E-10	3.64E-11	4.84E-10	4.84E-10
46	6.20	2.59E-29	0.	2.93E-26	0.	0.	0.	5.29E-27	0.	0.	0.	5.46E-17	8.81E-12	4.22E-10	3.75E-11	5.00E-10	5.00E-10
47	6.10	1.19E-29	0.	1.39E-26	0.	0.	0.	1.52E-26	0.	0.	0.	5.50E-17	9.26E-12	4.44E-10	3.86E-11	5.16E-10	5.16E-10
48	6.00	5.01E-30	0.	3.55E-27	0.	0.	0.	1.47E-26	0.	0.	0.	5.54E-17	9.73E-12	4.66E-10	3.97E-11	5.32E-10	5.32E-10
49	5.90	1.25E-30	0.	2.55E-28	0.	0.	0.	2.16E-26	0.	0.	0.	5.58E-17	1.02E-11	4.88E-10	4.08E-11	5.48E-10	5.48E-10
50	5.80	1.58E-31	0.	6.43E-30	0.	0.	0.	3.03E-26	0.	0.	0.	5.62E-17	1.08E-11	5.10E-10	4.19E-11	5.64E-10	5.64E-10
51	5.70	1.16E-32	0.	0.	0.	0.	0.	3.57E-26	0.	0.	0.	5.66E-17	1.14E-11	5.32E-10	4.30E-11	5.80E-10	5.80E-10



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 19000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON ENERGY	Q2 S-R	N2 1ST POS.	N2 2ND POS.	N2+ 1ST DEG.	BETA	NU	GAMMA	NO VIB-ROT	NO	PHOTO-DET	FREE-FREE	N	O	TOTAL AIR
52	5.60	5.2E-34	0.	0.	3.07E-26	1.96E-25	0.	0.	0.	4.77E-17	1.20E-11	1.36E-10	2.16E-11	1.70E-10
53	5.50	0.	0.	0.	3.75E-26	1.83E-25	0.	0.	0.	4.77E-17	1.26E-11	1.44E-10	2.20E-11	1.79E-10
54	5.40	0.	0.	0.	3.47E-26	1.51E-25	0.	0.	0.	4.81E-17	1.34E-11	1.53E-10	2.27E-11	1.89E-10
55	5.30	0.	0.	0.	3.56E-26	1.49E-25	0.	0.	0.	4.85E-17	1.41E-11	1.61E-10	2.03E-11	1.96E-10
56	5.20	0.	0.	0.	3.85E-26	1.45E-25	0.	0.	0.	4.88E-17	1.50E-11	1.70E-10	2.10E-11	2.06E-10
57	5.10	0.	0.	0.	3.85E-26	1.86E-25	0.	0.	0.	4.92E-17	1.59E-11	1.78E-10	2.16E-11	2.16E-10
58	5.00	7.2E-27	0.	0.	3.53E-26	1.75E-25	0.	0.	0.	4.96E-17	1.69E-11	1.87E-10	2.23E-11	2.26E-10
59	4.90	1.7E-26	0.	0.	3.94E-26	1.92E-25	0.	0.	0.	5.00E-17	1.79E-11	1.96E-10	2.30E-11	2.37E-10
60	4.80	3.3E-26	0.	0.	4.24E-26	1.81E-25	0.	0.	0.	5.04E-17	1.91E-11	2.04E-10	2.37E-11	2.47E-10
61	4.70	4.5E-26	0.	0.	4.26E-26	1.65E-25	0.	0.	0.	5.08E-17	2.04E-11	2.17E-10	2.46E-11	2.62E-10
62	4.60	6.3E-26	0.	0.	4.39E-26	1.50E-25	0.	0.	0.	5.12E-17	2.17E-11	2.33E-10	2.54E-11	2.81E-10
63	4.50	6.6E-26	0.	0.	4.04E-26	1.13E-25	0.	0.	0.	5.17E-17	2.32E-11	2.50E-10	2.64E-11	3.00E-10
64	4.40	7.1E-26	0.	0.	4.07E-26	7.73E-26	0.	0.	0.	5.21E-17	2.48E-11	2.67E-10	2.70E-11	3.19E-10
65	4.30	6.79E-26	0.	0.	3.90E-26	4.88E-26	0.	0.	0.	5.25E-17	2.66E-11	2.83E-10	2.51E-11	3.35E-10
66	4.20	6.37E-26	0.	0.	4.12E-26	3.40E-26	0.	0.	0.	5.29E-17	2.86E-11	3.03E-10	1.89E-11	3.50E-10
67	4.10	6.0E-26	0.	0.	4.05E-26	9.50E-27	0.	0.	0.	5.31E-17	3.08E-11	3.21E-10	2.01E-11	3.72E-10
68	4.00	5.56E-26	0.	0.	3.92E-26	7.14E-27	0.	0.	0.	5.33E-17	3.31E-11	3.38E-10	2.14E-11	3.93E-10
69	3.90	4.75E-26	0.	0.	3.90E-25	1.31E-20	0.	0.	0.	5.31E-17	3.58E-11	3.58E-10	2.26E-11	4.16E-10
70	3.80	5.22E-26	0.	0.	6.25E-25	5.39E-20	0.	0.	0.	5.29E-17	3.87E-11	3.77E-10	2.39E-11	4.40E-10
71	3.70	4.64E-26	0.	0.	6.46E-25	2.38E-20	0.	0.	0.	5.21E-17	4.19E-11	3.97E-10	2.57E-11	4.65E-10
72	3.60	4.24E-26	0.	0.	4.64E-25	1.25E-19	0.	0.	0.	4.88E-17	4.56E-11	4.18E-10	2.55E-11	4.89E-10
73	3.50	3.98E-26	0.	0.	6.09E-25	2.32E-19	0.	0.	0.	4.46E-17	4.96E-11	4.22E-10	2.75E-11	5.00E-10
74	3.40	3.68E-26	0.	0.	3.93E-25	3.65E-20	0.	0.	0.	2.57E-17	5.42E-11	4.33E-10	2.98E-11	5.17E-10
75	3.30	2.95E-26	0.	0.	4.02E-25	1.38E-19	0.	0.	0.	2.58E-17	5.93E-11	4.44E-10	2.57E-11	5.29E-10
76	3.20	2.59E-26	0.	0.	2.66E-25	2.24E-19	0.	0.	0.	2.58E-17	6.51E-11	4.64E-10	2.39E-11	5.53E-10
77	3.10	2.50E-26	0.	0.	2.08E-25	5.79E-20	0.	0.	0.	2.59E-17	7.17E-11	4.86E-10	2.63E-11	5.84E-10
78	3.00	2.25E-26	0.	0.	1.28E-25	1.31E-19	0.	0.	0.	2.60E-17	7.92E-11	5.09E-10	2.88E-11	6.17E-10
79	2.90	1.91E-26	0.	0.	8.06E-26	7.18E-20	0.	0.	0.	2.60E-17	8.78E-11	5.31E-10	3.14E-11	6.50E-10
80	2.80	2.0E-26	0.	0.	3.88E-26	4.79E-20	0.	0.	0.	2.60E-17	9.77E-11	5.54E-10	3.12E-11	6.83E-10
81	2.70	1.30E-26	0.	0.	1.82E-26	6.21E-20	0.	0.	0.	2.60E-17	1.09E-10	5.77E-10	2.61E-11	7.12E-10
82	2.60	6.21E-27	0.	0.	8.82E-27	6.40E-21	0.	0.	0.	2.60E-17	1.22E-10	6.00E-10	2.84E-11	7.40E-10
83	2.50	4.3E-28	0.	0.	9.33E-28	6.21E-21	0.	0.	0.	2.60E-17	1.38E-10	6.20E-10	3.20E-11	7.90E-10
84	2.40	0.	4.19E-26	0.	4.87E-21	8.66E-29	0.	0.	0.	2.60E-17	1.56E-10	6.35E-10	3.75E-11	8.58E-10
85	2.30	0.	1.26E-25	0.	0.	0.	0.	0.	0.	2.58E-17	1.77E-10	6.11E-10	4.32E-11	9.32E-10
86	2.20	0.	3.34E-25	0.	0.	0.	0.	0.	0.	2.57E-17	2.03E-10	6.58E-10	4.95E-11	1.01E-09
87	2.10	0.	3.46E-25	0.	0.	0.	0.	0.	0.	2.56E-17	2.34E-10	7.01E-10	5.67E-11	1.10E-09
88	2.00	0.	6.86E-25	0.	0.	0.	0.	0.	0.	2.48E-17	2.71E-10	7.51E-10	6.44E-11	1.19E-09
89	1.90	0.	8.45E-25	0.	0.	0.	0.	0.	0.	2.39E-17	3.17E-10	8.03E-10	7.31E-11	1.28E-09
90	1.80	0.	7.20E-25	0.	0.	0.	0.	0.	0.	2.28E-17	3.74E-10	8.70E-10	8.27E-11	1.37E-09
91	1.70	0.	8.21E-25	0.	0.	0.	0.	0.	0.	2.15E-17	4.45E-10	9.50E-10	9.27E-11	1.46E-09
92	1.60	0.	6.16E-25	0.	0.	0.	0.	0.	0.	1.82E-17	5.36E-10	1.09E-09	1.01E-11	1.55E-09
93	1.50	0.	7.07E-25	0.	0.	0.	0.	0.	0.	8.27E-18	6.53E-10	1.28E-09	1.15E-11	1.64E-09
94	1.40	0.	6.97E-25	0.	0.	0.	0.	0.	0.	0.	8.08E-10	1.46E-10	8.68E-11	1.73E-09
95	1.30	0.	5.34E-25	0.	0.	0.	0.	0.	0.	0.	1.01E-09	2.02E-10	9.59E-11	1.82E-09
96	1.20	0.	5.10E-25	0.	0.	0.	0.	0.	0.	0.	1.29E-09	2.76E-10	1.20E-10	1.91E-09
97	1.10	0.	4.90E-25	0.	0.	0.	0.	0.	0.	0.	1.68E-09	3.42E-10	1.52E-10	2.00E-09
98	1.00	0.	4.50E-25	0.	0.	0.	0.	0.	0.	0.	2.25E-09	4.16E-10	1.84E-10	2.09E-09
99	0.90	0.	3.69E-25	0.	0.	0.	0.	0.	0.	0.	3.11E-09	4.67E-10	2.14E-10	2.18E-09
100	0.80	0.	1.74E-25	0.	0.	0.	0.	0.	0.	0.	4.46E-09	5.43E-10	2.49E-10	2.27E-09
101	0.70	0.	4.05E-26	0.	0.	0.	0.	0.	0.	0.	6.72E-09	6.43E-10	2.84E-10	2.36E-09
102	0.60	0.	8.06E-27	0.	0.	0.	0.	0.	0.	0.	1.08E-08	7.68E-10	3.20E-10	2.45E-09

## ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		20000.		DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NO: VAL)		NO		FREE-FREE		N		D		TOTAL AIR	
PHOTO 02 S-R		O2 S-R		N2 B-H		NO		PHOTO-DET (IONS)		P.E.		P.E.		TOTAL AIR	
ENERGY BANDS		CONT.		NO. 1		BETA		2		O-		O		TOTAL AIR	
E.V.															
1	10.70	0.	0.	6.06E-01	0.	0.	0.	4.76E 00	3.27E-01	3.73E 02	4.06E 00	3.13E 02	0.	0.	0.
2	10.60	0.	0.	5.56E-01	0.	0.	0.	4.76E 00	3.37E-01	1.61E 01	4.35E 00	2.58E 01	0.	0.	0.
3	10.50	0.	0.	5.64E-01	0.	0.	0.	4.77E 00	3.47E-01	1.62E 01	4.03E 00	2.59E 01	0.	0.	0.
4	10.40	0.	0.	5.40E-01	0.	0.	0.	4.78E 00	3.57E-01	1.62E 01	4.01E 00	2.59E 01	0.	0.	0.
5	10.30	0.	0.	4.75E-01	0.	0.	0.	4.78E 00	3.62E-01	1.63E 01	4.00E 00	2.59E 01	0.	0.	0.
6	10.20	0.	0.	4.93E-01	0.	0.	0.	4.79E 00	3.79E-01	1.63E 01	3.98E 00	2.59E 01	0.	0.	0.
7	10.10	0.	0.	4.67E-01	0.	0.	0.	4.80E 00	3.90E-01	1.63E 01	3.96E 00	2.59E 01	0.	0.	0.
8	10.00	0.	0.	4.15E-01	0.	0.	0.	4.80E 00	4.02E-01	1.63E 01	3.94E 00	2.59E 01	0.	0.	0.
9	9.90	0.	0.	4.27E-01	0.	0.	0.	4.81E 00	4.14E-01	1.63E 01	3.93E 00	2.59E 01	0.	0.	0.
10	9.80	0.	0.	4.05E-01	0.	0.	0.	4.82E 00	4.27E-01	1.64E 01	3.91E 00	2.59E 01	0.	0.	0.
11	9.70	0.	0.	3.53E-01	0.	0.	0.	4.83E 00	4.41E-01	1.64E 01	3.89E 00	2.59E 01	0.	0.	0.
12	9.60	0.	0.	3.83E-01	0.	0.	0.	4.84E 00	4.55E-01	1.65E 01	3.87E 00	2.60E 01	0.	0.	0.
13	9.50	0.	0.	3.31E-01	0.	0.	0.	4.85E 00	4.69E-01	1.65E 01	3.86E 00	2.60E 01	0.	0.	0.
14	9.40	0.	0.	3.16E-01	0.	0.	0.	4.86E 00	4.85E-01	1.66E 01	3.84E 00	2.61E 01	0.	0.	0.
15	9.30	0.	0.	3.25E-01	0.	0.	0.	4.88E 00	5.01E-01	1.66E 01	3.82E 00	2.61E 01	0.	0.	0.
16	9.20	0.	0.	2.73E-01	0.	0.	0.	4.90E 00	5.17E-01	1.67E 01	3.81E 00	2.62E 01	0.	0.	0.
17	9.10	0.	0.	2.81E-01	0.	0.	0.	4.92E 00	5.35E-01	6.44E 00	3.79E 00	1.60E 01	0.	0.	0.
18	9.00	0.	0.	2.58E-01	0.	0.	0.	4.93E 00	5.53E-01	6.45E 00	3.77E 00	1.60E 01	0.	0.	0.
19	8.90	0.	0.	2.41E-01	0.	0.	0.	4.95E 00	5.72E-01	6.46E 00	3.76E 00	1.60E 01	0.	0.	0.
20	8.80	0.	0.	2.38E-01	0.	0.	0.	4.97E 00	5.92E-01	6.47E 00	3.74E 00	1.60E 01	0.	0.	0.
21	8.70	0.	0.	2.09E-01	0.	0.	0.	4.99E 00	6.13E-01	6.48E 00	3.73E 00	1.60E 01	0.	0.	0.
22	8.60	0.	0.	2.17E-01	0.	0.	0.	5.00E 00	6.35E-01	6.50E 00	3.71E 00	1.61E 01	0.	0.	0.
23	8.50	0.	0.	1.92E-01	0.	0.	0.	5.02E 00	6.58E-01	6.52E 00	3.70E 00	1.61E 01	0.	0.	0.
24	8.40	0.	0.	1.65E-01	0.	0.	0.	5.05E 00	6.82E-01	6.54E 00	3.68E 00	1.61E 01	0.	0.	0.
25	8.30	0.	0.	1.69E-01	0.	0.	0.	5.08E 00	7.07E-01	6.57E 00	3.68E 00	1.62E 01	0.	0.	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)	DENSITY (GM/CC) 1.293E-02 (1.0E 01 NORMAL)
TEMPERATURE (DEGREES K) 20000.	

PHOTON 02 S-R ENERGY	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET	FREE-FREE (IUNS)	N P.E.	O P.E.	TOTAL AIR						
52	5.60	2.02E-11	0.	0.	3.41E-03	2.20E-02	0.	5.08E	00	2.33E	00	8.39E	00	4.02E	00	1.98E	01	
53	5.50	0.	0.	0.	4.17E-03	2.03E-02	0.	5.11E	00	2.46E	00	8.57E	00	4.06E	00	2.02E	01	
54	5.40	0.	0.	0.	3.88E-03	1.68E-02	0.	5.13E	00	2.60E	00	8.80E	00	4.11E	00	2.07E	01	
55	5.30	0.	0.	0.	3.97E-03	2.10E-02	0.	5.17E	00	2.75E	00	9.04E	00	4.16E	00	2.11E	01	
56	5.20	0.	0.	0.	4.30E-03	1.63E-02	0.	5.20E	00	2.91E	00	9.28E	00	4.24E	00	2.16E	01	
57	5.10	0.	0.	0.	4.31E-03	2.08E-02	0.	5.24E	00	3.09E	00	9.56E	00	4.31E	00	2.22E	01	
58	5.00	2.82E-04	0.	0.	3.96E-03	1.98E-02	0.	5.29E	00	3.28E	00	9.86E	00	4.38E	00	2.28E	01	
59	4.90	6.92E-04	0.	0.	4.43E-03	2.18E-02	0.	5.33E	00	3.49E	00	1.02E	01	4.46E	00	2.35E	01	
60	4.80	1.31E-03	0.	0.	4.78E-03	2.06E-02	0.	5.38E	00	3.71E	00	1.06E	01	4.55E	00	2.42E	01	
61	4.70	1.79E-03	0.	0.	4.82E-03	1.88E-02	0.	5.42E	00	3.96E	00	1.10E	01	4.67E	00	2.51E	01	
62	4.60	2.43E-03	0.	0.	4.97E-03	1.70E-02	0.	5.46E	00	4.23E	00	1.14E	01	4.80E	00	2.59E	01	
63	4.50	2.63E-03	0.	0.	4.59E-03	1.28E-02	0.	5.51E	00	4.52E	00	1.20E	01	4.93E	00	2.70E	01	
64	4.40	2.84E-03	0.	0.	4.63E-03	8.78E-03	0.	5.55E	00	4.84E	00	1.26E	01	5.06E	00	2.81E	01	
65	4.30	2.71E-03	0.	0.	4.66E-03	5.56E-03	0.	5.59E	00	5.19E	00	1.33E	01	5.20E	00	2.94E	01	
66	4.20	2.54E-03	0.	0.	4.70E-03	3.85E-03	0.	5.64E	00	5.57E	00	1.40E	01	5.34E	00	3.08E	01	
67	4.10	2.40E-03	0.	0.	4.64E-03	1.08E-03	0.	5.66E	00	5.99E	00	1.47E	01	5.33E	00	3.17E	01	
68	4.00	2.23E-03	0.	0.	4.50E-03	8.11E-04	0.	5.68E	00	6.45E	00	1.53E	01	2.51E	00	3.03E	01	
69	3.90	1.91E-03	0.	0.	4.20E-03	3.03E-04	0.	5.66E	00	6.97E	00	1.51E	01	2.59E	00	3.05E	01	
70	3.80	2.11E-03	0.	0.	2.39E-01	5.10E-02	0.	5.64E	00	7.54E	00	1.53E	01	2.70E	00	3.15E	01	
71	3.70	1.90E-03	0.	0.	2.45E-01	2.34E-02	0.	5.55E	00	8.17E	00	1.28E	01	2.95E	00	2.97E	01	
72	3.60	1.72E-03	0.	0.	1.78E-01	1.21E-01	0.	5.20E	00	8.88E	00	1.38E	01	3.22E	00	3.14E	01	
73	3.50	1.62E-03	0.	0.	2.33E-01	2.19E-01	0.	4.76E	00	9.68E	00	1.46E	01	3.54E	00	3.31E	01	
74	3.40	1.50E-03	0.	0.	1.52E-01	3.58E-02	0.	2.74E	00	1.06E	01	1.63E	01	3.90E	00	3.37E	01	
75	3.30	1.21E-03	0.	0.	1.55E-01	1.33E-01	0.	2.75E	00	1.16E	01	1.79E	01	4.26E	00	3.68E	01	
76	3.20	1.07E-03	0.	0.	1.03E-01	2.10E-01	0.	2.75E	00	1.27E	01	1.96E	01	4.64E	00	4.00E	01	
77	3.10	1.03E-03	0.	0.	6.09E-02	5.67E-02	0.	2.76E	00	1.40E	01	2.13E	01	5.02E	00	4.33E	01	
78	3.00	9.33E-04	0.	0.	5.01E-02	1.26E-01	0.	2.77E	00	1.55E	01	2.31E	01	5.40E	00	4.69E	01	
79	2.90	7.94E-04	0.	0.	3.16E-02	6.83E-02	0.	2.77E	00	1.72E	01	2.49E	01	5.82E	00	5.08E	01	
80	2.80	8.33E-04	0.	0.	1.52E-02	4.68E-02	0.	2.78E	00	1.91E	01	2.71E	01	6.31E	00	5.54E	01	
81	2.70	5.46E-04	0.	0.	7.17E-03	5.93E-02	0.	2.78E	00	2.14E	01	2.95E	01	6.83E	00	6.05E	01	
82	2.60	2.62E-04	0.	0.	3.45E-03	6.19E-03	0.	2.78E	00	2.40E	01	3.20E	01	7.37E	00	6.61E	01	
83	2.50	1.86E-05	0.	0.	3.62E-04	6.04E-03	0.	2.78E	00	2.70E	01	3.65E	01	4.66E	00	7.10E	01	
84	2.40	0.	1.60E-02	0.	0.	0.	0.	2.78E	00	3.06E	01	4.25E	01	5.44E	00	8.14E	01	
85	2.30	0.	4.74E-02	0.	0.	0.	0.	2.75E	00	3.48E	01	3.76E	01	6.49E	00	8.17E	01	
86	2.20	0.	1.26E-01	0.	0.	0.	0.	2.74E	00	3.99E	01	4.44E	01	7.74E	00	9.50E	01	
87	2.10	0.	1.29E-01	0.	0.	0.	0.	2.73E	00	4.60E	01	5.17E	01	9.00E	00	1.10E	02	
88	2.00	0.	2.59E-01	0.	0.	0.	0.	2.64E	00	5.34E	01	5.90E	01	1.03E	01	1.26E	02	
89	1.90	0.	3.11E-01	0.	0.	0.	0.	2.54E	00	6.24E	01	6.77E	01	1.20E	01	1.45E	02	
90	1.80	0.	2.67E-01	0.	0.	0.	0.	2.43E	00	7.36E	01	8.12E	01	1.46E	01	1.72E	02	
91	1.70	0.	3.02E-01	0.	0.	0.	0.	2.29E	00	8.78E	01	9.76E	01	1.77E	01	2.06E	02	
92	1.60	0.	2.28E-01	0.	0.	0.	0.	1.94E	00	1.06E	02	1.14E	02	2.09E	01	2.43E	02	
93	1.50	0.	2.60E-01	0.	0.	0.	0.	8.81E-01	1.29E	02	1.48E	02	1.48E	02	2.54E	01	3.04E	02
94	1.40	0.	2.56E-01	0.	0.	0.	0.	0.	1.60E	02	1.85E	02	1.85E	02	3.03E	01	3.76E	02
95	1.30	0.	1.96E-01	0.	0.	0.	0.	0.	2.00E	02	2.48E	02	2.48E	02	4.00E	01	4.89E	02
96	1.20	0.	1.87E-01	0.	0.	0.	0.	0.	2.56E	02	2.76E	02	2.76E	02	4.04E	01	5.72E	02
97	1.10	0.	1.81E-01	0.	0.	0.	0.	0.	3.33E	02	3.40E	02	3.40E	02	5.06E	01	7.24E	02
98	1.00	0.	1.66E-01	0.	0.	0.	0.	0.	4.47E	02	4.13E	02	4.13E	02	5.77E	01	9.18E	02
99	0.90	0.	1.36E-01	0.	0.	0.	0.	0.	6.20E	02	4.75E	02	4.75E	02	6.77E	01	1.16E	03
100	0.80	0.	6.41E-02	0.	0.	0.	0.	0.	8.92E	02	5.47E	02	5.47E	02	7.77E	01	1.52E	03
101	0.70	0.	1.49E-02	0.	0.	0.	0.	0.	1.35E	03	5.91E	02	7.92E	01	7.92E	01	2.02E	03
102	0.60	0.	3.13E-03	0.	0.	0.	0.	0.	2.18E	03	6.61E	02	8.86E	01	8.86E	01	2.93E	03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		2000C.		DENSITY (GM/CC) 1.293E-03 (1.0E 00 NORMAL)		O- PHOTO-DET (IUNS)		FREE-FREE N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	U2 S-R BANDS	O2 S-R CONT.	U2 E-H NO. 1	NU	NU	NU	NU	NU	NU	NU	NU	NU	NU
				NU	NU	NU	NU	NU	NU	NU	NU	NU	NU
1 10.70 0.		0.	4.20E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.		0.	3.85E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.		0.	3.91E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.		0.	3.74E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.		0.	3.30E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.		0.	3.42E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.		0.	3.24E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.		0.	2.88E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.		0.	2.96E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.		0.	2.81E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.		0.	2.45E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.		0.	2.65E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.		0.	2.30E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.		0.	2.19E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.		0.	2.25E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.		0.	1.90E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.		0.	1.95E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.		0.	1.79E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.		0.	1.67E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.		0.	1.65E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.		0.	1.45E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.		0.	1.50E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.		0.	1.33E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.		0.	1.33E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.		0.	1.14E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.		0.	1.16E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.		0.	1.02E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.		0.	1.03E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.		0.	8.94E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.		0.	9.33E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.		0.	8.27E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.		0.	7.92E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.		0.	7.41E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.		0.	6.71E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.		0.	6.41E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.		0.	5.84E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.		0.	5.66E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.		0.	5.24E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.		0.	4.85E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.		0.	4.72E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.		0.	4.17E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.		0.	3.78E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.		0.	3.05E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.		0.	2.14E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.		0.	1.36E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.		0.	7.65E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.		0.	3.65E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.		0.	9.36E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.		0.	6.71E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.		0.	1.70E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		20000.		DENSITY (GM/CC) 1.293E-03 (1.0E 00 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTO 02 S-R	N2	N2	N2+	N2	N2	BETA	GAMMA	VIB-ROT	NO	2	PHOTO-DET (IONS)	0	P.E.
ENERGY HANDS	1ST POS.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	BETA	GAMMA	VIB-ROT	NO	2	PHOTO-DET (IONS)	0	P.E.
52	5.60	1.50E-13	0.	0.	0.	2.52E-05	1.62E-04	0.	0.	0.	1.30E-01	1.92E-01	6.99E-01
53	5.50	0.	0.	0.	0.	3.08E-05	1.50E-04	0.	0.	0.	1.30E-01	2.03E-01	7.14E-01
54	5.40	0.	0.	0.	0.	2.86E-05	1.24E-04	0.	0.	0.	1.31E-01	2.15E-01	7.33E-01
55	5.30	0.	0.	0.	0.	2.93E-05	1.55E-04	0.	0.	0.	1.32E-01	2.27E-01	7.53E-01
56	5.20	0.	0.	0.	0.	3.17E-05	1.20E-04	0.	0.	0.	1.33E-01	2.41E-01	7.73E-01
57	5.10	0.	0.	0.	0.	3.18E-05	1.54E-04	0.	0.	0.	1.34E-01	2.55E-01	7.96E-01
58	5.00	2.21E-06	0.	0.	0.	2.92E-05	1.46E-04	0.	0.	0.	1.35E-01	2.71E-01	8.21E-01
59	4.90	5.43E-06	0.	0.	0.	3.27E-05	1.61E-04	0.	0.	0.	1.36E-01	2.88E-01	8.50E-01
60	4.80	1.03E-05	0.	0.	0.	3.53E-05	1.52E-04	0.	0.	0.	1.37E-01	3.07E-01	8.81E-01
61	4.70	1.40E-05	0.	0.	0.	3.55E-05	1.38E-04	0.	0.	0.	1.38E-01	3.27E-01	9.14E-01
62	4.60	1.93E-05	0.	0.	0.	3.67E-05	1.25E-04	0.	0.	0.	1.40E-01	3.49E-01	9.53E-01
63	4.50	2.06E-05	0.	4.85E-05	0.	3.39E-05	9.47E-05	0.	0.	0.	1.41E-01	3.73E-01	1.00E 00
64	4.40	2.23E-05	0.	1.42E-04	0.	3.42E-05	6.47E-05	0.	0.	0.	1.42E-01	4.00E-01	1.05E 00
65	4.30	2.12E-05	0.	4.82E-04	0.	3.29E-05	4.10E-05	0.	0.	0.	1.43E-01	4.28E-01	1.11E 00
66	4.20	1.94E-05	0.	1.50E-03	0.	3.47E-05	2.84E-05	0.	0.	0.	1.44E-01	4.60E-01	1.16E 00
67	4.10	1.84E-05	0.	6.85E-04	0.	3.42E-05	7.97E-06	0.	0.	0.	1.45E-01	4.95E-01	1.22E 00
68	4.00	1.75E-05	0.	2.17E-03	0.	3.32E-05	5.98E-06	0.	0.	0.	1.45E-01	5.33E-01	1.28E 00
69	3.90	1.55E-05	0.	1.03E-03	3.05E-04	3.10E-05	2.23E-06	0.	0.	0.	1.45E-01	5.76E-01	1.26E 00
70	3.80	1.65E-05	0.	1.66E-03	1.22E-03	3.35E-05	0.	0.	0.	0.	1.44E-01	6.23E-01	1.27E 00
71	3.70	1.49E-05	0.	1.70E-03	5.62E-04	2.90E-05	0.	0.	0.	0.	1.42E-01	6.75E-01	1.06E 00
72	3.60	1.35E-05	0.	1.24E-03	2.90E-03	3.13E-05	0.	0.	0.	0.	1.33E-01	7.34E-01	1.15E 00
73	3.50	1.27E-05	0.	1.61E-03	5.25E-03	2.51E-05	0.	0.	0.	0.	1.22E-01	8.00E-01	1.22E 00
74	3.40	1.18E-05	0.	1.05E-03	8.59E-04	2.83E-05	0.	0.	0.	0.	7.02E-02	8.74E-01	1.35E 00
75	3.30	9.51E-06	0.	1.08E-03	3.19E-03	2.28E-05	0.	0.	0.	0.	7.03E-02	9.57E-01	1.49E 00
76	3.20	8.36E-06	0.	7.18E-04	5.05E-03	2.41E-05	0.	0.	0.	0.	7.04E-02	1.05E 00	1.63E 00
77	3.10	8.09E-06	0.	5.61E-04	1.36E-03	2.31E-05	0.	0.	0.	0.	7.06E-02	1.16E 00	1.78E 00
78	3.00	7.32E-06	0.	3.47E-04	3.02E-03	2.20E-05	0.	0.	0.	0.	7.07E-02	1.28E 00	1.92E 00
79	2.90	6.23E-06	0.	2.19E-04	1.64E-03	1.71E-05	0.	0.	0.	0.	7.08E-02	1.42E 00	2.08E 00
80	2.80	6.53E-06	0.	1.06E-04	1.12E-03	2.1E-05	0.	0.	0.	0.	7.09E-02	1.58E 00	2.26E 00
81	2.70	4.28E-06	0.	4.98E-05	1.42E-03	6.74E-06	0.	0.	0.	0.	7.09E-02	1.76E 00	2.45E 00
82	2.60	2.06E-06	0.	2.40E-05	1.49E-04	3.02E-06	0.	0.	0.	0.	7.09E-02	1.98E 00	2.67E 00
83	2.50	1.46E-07	0.	2.51E-06	1.45E-04	7.28E-07	0.	0.	0.	0.	7.09E-02	2.23E 00	3.04E 00
84	2.40	0.	1.11E-04	0.	1.11E-04	7.84E-08	0.	0.	0.	0.	7.09E-02	2.53E 00	3.54E 00
85	2.30	0.	3.29E-04	0.	0.	0.	0.	0.	0.	0.	7.04E-02	2.88E 00	4.13E 00
86	2.20	0.	8.77E-04	0.	0.	0.	0.	0.	0.	0.	7.01E-02	3.30E 00	4.82E 00
87	2.10	0.	8.98E-04	0.	0.	0.	0.	0.	0.	0.	6.98E-02	3.80E 00	5.74E 00
88	2.00	0.	1.79E-03	0.	0.	0.	0.	0.	0.	0.	6.76E-02	4.41E 00	6.85E 00
89	1.90	0.	2.16E-03	0.	0.	0.	0.	0.	0.	0.	6.50E-02	5.15E 00	8.09E 00
90	1.80	0.	1.85E-03	0.	0.	0.	0.	0.	0.	0.	6.22E-02	6.08E 00	9.42E 00
91	1.70	0.	2.10E-03	0.	0.	0.	0.	0.	0.	0.	5.86E-02	7.25E 00	1.06E 00
92	1.60	0.	1.58E-03	0.	0.	0.	0.	0.	0.	0.	5.49E-02	8.75E 00	1.29E 00
93	1.50	0.	1.81E-03	0.	0.	0.	0.	0.	0.	0.	4.95E-02	1.07E 00	1.57E 00
94	1.40	0.	1.78E-03	0.	0.	0.	0.	0.	0.	0.	2.25E-02	1.07E 00	1.85E 00
95	1.30	0.	1.36E-03	0.	0.	0.	0.	0.	0.	0.	0.	1.32E 00	1.54E 00
96	1.20	0.	1.30E-03	0.	0.	0.	0.	0.	0.	0.	0.	1.66E 00	2.07E 00
97	1.10	0.	1.26E-03	0.	0.	0.	0.	0.	0.	0.	0.	2.11E 00	2.70E 00
98	1.00	0.	1.15E-03	0.	0.	0.	0.	0.	0.	0.	0.	2.75E 00	3.57E 00
99	0.90	0.	9.47E-04	0.	0.	0.	0.	0.	0.	0.	0.	3.70E 00	4.48E 00
100	0.80	0.	4.45E-04	0.	0.	0.	0.	0.	0.	0.	0.	5.12E 00	5.11E 00
101	0.70	0.	1.03E-04	0.	0.	0.	0.	0.	0.	0.	0.	7.37E 00	6.88E 00
102	0.60	0.	2.17E-05	0.	0.	0.	0.	0.	0.	0.	0.	1.11E 02	7.01E 00
												1.40E 02	7.85E 00
													2.43E 02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		2000C.		DENSITY (GM/CC)		1.293E-04 (1.0E-01 NORMAL)		O- PHOTO-DET (IUNS)		N P.E.		U P.E.		TOTAL AIR	
PHOTOV	02 S-R	02 S-R	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13
ENERGY	CONT.	CONT.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13
E.V.															
1	10.00	0.	1.28E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.00	0.	1.18E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.00	0.	1.19E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.00	0.	1.14E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.00	0.	1.01E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.00	0.	1.04E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.00	0.	9.89E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	8.79E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	9.04E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	8.57E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	7.48E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	8.10E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	7.01E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	6.69E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	6.88E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	5.79E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	5.96E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	5.47E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	5.11E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	5.04E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	4.43E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	4.59E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	4.07E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	4.06E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	3.49E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	3.55E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	3.10E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	3.14E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	2.73E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	2.85E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	2.53E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	2.42E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	2.26E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	2.05E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	1.96E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	1.78E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	1.73E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	1.60E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	1.48E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	1.44E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	1.27E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	1.15E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	9.30E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	6.53E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	4.15E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	2.34E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	1.11E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	2.86E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	2.05E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	5.18E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 20000.				DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)																	
PHOTON O2 S-R		N2		N2		N2+		NO		NO		O-		FREE-FREE		N		O		TOTAL AIR	
ENERGY BANDS		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT		PHOTO-DET (IONS)		P.E.		P.E.			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO		NO		NO		NO		NO		NO			
		N2		N2		N2		NO</													

TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)
20000.	1.293E-05	(13.0E-U3 NORMAL)

PHOTON ENERGY E.V.	U2 S-R CONT.	% R-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
1 1.70 0.	0.	7.48E-09	0.	0.	0.	8.30E-06	3.81E-05	3.37E-02	6.55E-04	3.44E-02
2 10.60 0.	0.	6.86E-09	0.	0.	0.	8.31E-06	3.92E-05	1.84E-03	6.53E-04	2.54E-03
3 10.50 0.	0.	6.96E-09	0.	0.	0.	8.32E-06	4.03E-05	1.85E-03	6.50E-04	2.54E-03
4 10.40 0.	0.	6.66E-09	0.	0.	0.	8.33E-06	4.15E-05	1.85E-03	6.47E-04	2.55E-03
5 10.30 0.	0.	5.86E-09	0.	0.	0.	8.34E-06	4.27E-05	1.86E-03	6.44E-04	2.55E-03
6 10.20 0.	0.	6.09E-09	0.	0.	0.	8.35E-06	4.40E-05	1.86E-03	6.41E-04	2.56E-03
7 10.10 0.	0.	5.77E-09	0.	0.	0.	8.37E-06	4.53E-05	1.86E-03	6.39E-04	2.55E-03
8 10.00 0.	0.	5.12E-09	0.	0.	0.	8.38E-06	4.67E-05	1.82E-03	6.36E-04	2.52E-03
9 9.90 0.	0.	5.27E-09	0.	0.	0.	8.39E-06	4.82E-05	1.83E-03	6.33E-04	2.52E-03
10 9.80 0.	0.	4.99E-09	0.	0.	0.	8.41E-06	4.97E-05	1.83E-03	6.30E-04	2.52E-03
11 9.70 0.	0.	4.36E-09	0.	0.	0.	8.42E-06	5.12E-05	1.84E-03	6.27E-04	2.52E-03
12 9.60 0.	0.	4.72E-09	0.	0.	0.	8.44E-06	5.29E-05	1.84E-03	6.25E-04	2.53E-03
13 9.50 0.	0.	4.09E-09	0.	0.	0.	8.45E-06	5.46E-05	1.85E-03	6.22E-04	2.53E-03
14 9.40 0.	0.	3.90E-09	0.	0.	0.	8.48E-06	5.63E-05	1.85E-03	6.19E-04	2.54E-03
15 9.30 0.	0.	4.01E-09	0.	0.	0.	8.51E-06	5.82E-05	1.86E-03	6.16E-04	2.54E-03
16 9.20 0.	0.	3.37E-09	0.	0.	0.	8.55E-06	6.01E-05	1.87E-03	6.14E-04	2.55E-03
17 9.10 0.	0.	3.47E-09	0.	0.	0.	8.58E-06	6.22E-05	1.87E-03	6.11E-04	2.55E-03
18 9.00 0.	0.	3.19E-09	0.	0.	0.	8.61E-06	6.43E-05	1.87E-03	6.09E-04	2.55E-03
19 8.90 0.	0.	2.98E-09	0.	0.	0.	8.64E-06	6.65E-05	1.87E-03	6.06E-04	2.55E-03
20 8.80 0.	0.	2.94E-09	0.	0.	0.	8.67E-06	6.88E-05	1.87E-03	6.04E-04	2.55E-03
21 8.70 0.	0.	2.58E-09	0.	0.	0.	8.70E-06	7.12E-05	1.87E-03	6.01E-04	2.55E-03
22 8.60 0.	0.	2.67E-09	0.	0.	0.	8.73E-06	7.38E-05	1.87E-03	5.99E-04	2.55E-03
23 8.50 0.	0.	2.37E-09	0.	0.	0.	8.76E-06	7.64E-05	1.87E-03	5.96E-04	2.55E-03
24 8.40 0.	0.	2.37E-09	0.	0.	0.	8.81E-06	7.92E-05	1.87E-03	5.94E-04	2.55E-03
25 8.30 0.	0.	2.04E-09	0.	0.	0.	8.85E-06	8.22E-05	1.87E-03	5.93E-04	2.55E-03
26 8.20 0.	0.	2.07E-09	0.	0.	0.	8.90E-06	8.52E-05	1.87E-03	5.94E-04	2.55E-03
27 8.10 0.	0.	1.81E-09	0.	0.	0.	8.94E-06	8.85E-05	1.87E-03	5.94E-04	2.55E-03
28 8.00 0.	0.	1.83E-09	0.	0.	0.	8.99E-06	9.19E-05	1.87E-03	5.95E-04	2.55E-03
29 7.90 0.	0.	1.59E-09	0.	0.	0.	9.04E-06	9.54E-05	1.87E-03	5.96E-04	2.55E-03
30 7.80 0.	0.	1.66E-09	0.	0.	0.	9.08E-06	9.92E-05	1.87E-03	5.96E-04	2.55E-03
31 7.70 0.	0.	1.47E-09	0.	0.	0.	9.13E-06	1.03E-04	1.87E-03	5.97E-04	2.55E-03
32 7.60 0.	0.	1.41E-09	0.	8.76E-14	0.	9.18E-06	1.07E-04	1.87E-03	5.98E-04	2.55E-03
33 7.50 0.	0.	1.32E-09	0.	2.85E-13	0.	9.22E-06	1.12E-04	1.87E-03	5.98E-04	2.55E-03
34 7.40 0.	0.	1.19E-09	0.	2.52E-12	0.	9.27E-06	1.16E-04	1.87E-03	5.99E-04	2.55E-03
35 7.30 0.	0.	1.14E-09	0.	9.68E-12	0.	9.32E-06	1.21E-04	1.87E-03	6.00E-04	2.55E-03
36 7.20 0.	0.	1.04E-09	0.	2.69E-11	0.	9.38E-06	1.26E-04	1.87E-03	6.00E-04	2.55E-03
37 7.10 0.	0.	1.01E-09	0.	8.44E-11	0.	9.45E-06	1.32E-04	1.87E-03	6.01E-04	2.55E-03
38 7.00 3.75E-13	0.	9.33E-10	0.	1.63E-10	0.	9.53E-06	1.38E-04	1.87E-03	6.02E-04	2.55E-03
39 6.90 7.35E-13	0.	8.63E-10	0.	2.35E-10	0.	9.61E-06	1.44E-04	1.87E-03	6.02E-04	2.55E-03
40 6.80 6.37E-13	0.	8.39E-10	0.	3.96E-10	0.	9.68E-06	1.50E-04	1.87E-03	6.03E-04	2.55E-03
41 6.70 4.67E-13	0.	7.42E-10	0.	3.86E-10	0.	9.76E-06	1.57E-04	1.87E-03	6.05E-04	2.55E-03
42 6.60 2.86E-13	0.	6.72E-10	0.	3.28E-10	0.	9.84E-06	1.64E-04	1.87E-03	6.07E-04	2.55E-03
43 6.50 1.66E-13	0.	5.42E-10	0.	4.70E-10	0.	9.91E-06	1.72E-04	1.87E-03	6.08E-04	2.55E-03
44 6.40 9.60E-14	0.	3.81E-10	1.50E-12	4.35E-10	0.	9.99E-06	1.80E-04	1.87E-03	6.10E-04	2.55E-03
45 6.30 5.62E-14	0.	2.42E-10	7.14E-12	3.23E-10	0.	1.01E-05	1.89E-04	1.87E-03	6.13E-04	2.55E-03
46 6.20 2.56E-14	0.	1.36E-10	1.02E-11	4.35E-10	0.	1.01E-05	1.99E-04	1.87E-03	6.18E-04	2.55E-03
47 6.10 1.18E-14	0.	6.49E-11	2.94E-11	5.30E-10	0.	1.02E-05	2.09E-04	1.87E-03	6.23E-04	2.55E-03
48 6.00 4.93E-15	0.	1.66E-11	2.87E-11	2.67E-10	0.	1.03E-05	2.19E-04	1.87E-03	6.28E-04	2.55E-03
49 5.90 1.23E-15	0.	1.19E-12	4.23E-11	2.58E-10	0.	1.03E-05	2.31E-04	1.87E-03	6.33E-04	2.55E-03
50 5.80 1.57E-16	0.	3.02E-14	5.95E-11	2.70E-10	0.	1.01E-05	2.43E-04	1.87E-03	6.38E-04	2.55E-03
51 5.70 1.16E-17	0.	0.	7.05E-11	3.02E-10	0.	9.53E-06	2.56E-04	1.87E-03	6.43E-04	2.55E-03



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		20000.		DENSITY (CM/CC) 1.293E-05		(10.0E-03 NORMAL)		FREE-FREE		N		O		TOTAL AIR	
PHOTON 02 S-R		N2		N2		N2		N2		N2		N2		N2	
ENERGY RAYDS		1ST POS.		2ND POS.		1ST NEG.		BETA		GAMMA		VIB-ROT		NO	
52	5.60	5.24E-19	0.	0.	0.	0.	0.	6.11E-11	3.93E-10	0.	0.	0.	0.	8.36E-06	2.70E-04
53	5.50	0.	0.	0.	0.	0.	0.	7.47E-11	3.64E-10	0.	0.	0.	0.	8.91E-06	2.86E-04
54	5.40	0.	0.	0.	0.	0.	0.	6.94E-11	3.02E-10	0.	0.	0.	0.	8.95E-06	3.02E-04
55	5.30	0.	0.	0.	0.	0.	0.	7.11E-11	3.76E-10	0.	0.	0.	0.	9.01E-06	3.20E-04
56	5.20	0.	0.	0.	0.	0.	0.	7.70E-11	2.92E-10	0.	0.	0.	0.	9.07E-06	3.39E-04
57	5.10	0.	0.	0.	0.	0.	0.	7.71E-11	3.73E-10	0.	0.	0.	0.	9.14E-06	3.59E-04
58	5.00	7.31E-12	0.	0.	0.	0.	0.	7.09E-11	3.55E-10	0.	0.	0.	0.	9.22E-06	3.81E-04
59	4.90	1.84E-11	0.	0.	0.	0.	0.	7.94E-11	3.90E-10	0.	0.	0.	0.	9.30E-06	4.06E-04
60	4.80	3.40E-11	0.	0.	0.	0.	0.	8.56E-11	3.68E-10	0.	0.	0.	0.	9.38E-06	4.32E-04
61	4.70	4.63E-11	0.	0.	0.	0.	0.	8.62E-11	3.36E-10	0.	0.	0.	0.	9.45E-06	4.60E-04
62	4.60	6.45E-11	0.	0.	0.	0.	0.	8.90E-11	3.04E-10	0.	0.	0.	0.	9.53E-06	4.91E-04
63	4.50	6.83E-11	0.	0.	0.	0.	0.	8.22E-11	2.30E-10	0.	0.	0.	0.	9.61E-06	5.25E-04
64	4.40	7.36E-11	0.	0.	0.	0.	0.	8.29E-11	1.57E-10	0.	0.	0.	0.	9.68E-06	5.62E-04
65	4.30	7.02E-11	0.	0.	0.	0.	0.	7.98E-11	9.95E-11	0.	0.	0.	0.	9.76E-06	6.03E-04
66	4.20	6.64E-11	0.	0.	0.	0.	0.	8.41E-11	6.88E-11	0.	0.	0.	0.	9.84E-06	6.47E-04
67	4.10	6.23E-11	0.	0.	0.	0.	0.	8.30E-11	1.93E-11	0.	0.	0.	0.	9.87E-06	6.96E-04
68	4.00	5.79E-11	0.	0.	0.	0.	0.	8.06E-11	1.45E-11	0.	0.	0.	0.	9.91E-06	7.50E-04
69	3.90	4.97E-11	0.	0.	0.	0.	0.	7.52E-11	5.42E-12	0.	0.	0.	0.	9.87E-06	8.10E-04
70	3.80	5.47E-11	0.	0.	0.	0.	0.	8.13E-11	0.	0.	0.	0.	0.	9.84E-06	8.76E-04
71	3.70	4.92E-11	0.	0.	0.	0.	0.	7.04E-11	0.	0.	0.	0.	0.	9.68E-06	9.50E-04
72	3.60	4.47E-11	0.	0.	0.	0.	0.	7.61E-11	0.	0.	0.	0.	0.	9.07E-06	1.03E-03
73	3.50	4.21E-11	0.	0.	0.	0.	0.	6.09E-11	0.	0.	0.	0.	0.	8.30E-06	1.12E-03
74	3.40	3.94E-11	0.	0.	0.	0.	0.	6.86E-11	0.	0.	0.	0.	0.	4.79E-06	1.23E-03
75	3.30	3.14E-11	0.	0.	0.	0.	0.	5.54E-11	0.	0.	0.	0.	0.	4.80E-06	1.35E-03
76	3.20	2.77E-11	0.	0.	0.	0.	0.	5.85E-11	0.	0.	0.	0.	0.	4.80E-06	1.48E-03
77	3.10	2.67E-11	0.	0.	0.	0.	0.	5.59E-11	0.	0.	0.	0.	0.	4.81E-06	1.63E-03
78	3.00	2.42E-11	0.	0.	0.	0.	0.	5.34E-11	0.	0.	0.	0.	0.	4.83E-06	1.80E-03
79	2.90	2.06E-11	0.	0.	0.	0.	0.	4.14E-11	0.	0.	0.	0.	0.	4.83E-06	2.00E-03
80	2.80	2.16E-11	0.	0.	0.	0.	0.	2.93E-11	0.	0.	0.	0.	0.	4.84E-06	2.22E-03
81	2.70	1.42E-11	0.	0.	0.	0.	0.	1.63E-11	0.	0.	0.	0.	0.	4.84E-06	2.48E-03
82	2.60	6.81E-12	0.	0.	0.	0.	0.	7.33E-12	0.	0.	0.	0.	0.	4.84E-06	2.78E-03
83	2.50	4.82E-13	0.	0.	0.	0.	0.	1.77E-12	0.	0.	0.	0.	0.	4.84E-06	3.14E-03
84	2.40	0.	1.98E-10	0.	0.	0.	0.	1.90E-13	0.	0.	0.	0.	0.	4.84E-06	3.56E-03
85	2.30	0.	5.84E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.80E-06	4.05E-03
86	2.20	0.	1.56E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.78E-06	4.64E-03
87	2.10	0.	1.60E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.76E-06	5.35E-03
88	2.00	0.	3.19E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.61E-06	6.20E-03
89	1.90	0.	3.84E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.43E-06	7.25E-03
90	1.80	0.	3.29E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.24E-06	8.55E-03
91	1.70	0.	3.73E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.00E-06	1.02E-02
92	1.60	0.	2.81E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.38E-06	1.23E-02
93	1.50	0.	3.21E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.54E-06	1.50E-02
94	1.40	0.	3.16E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	2.42E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.86E-02	2.06E-02
96	1.20	0.	2.31E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.33E-02	2.76E-02
97	1.10	0.	2.23E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.97E-02	3.07E-02
98	1.00	0.	2.05E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.88E-02	3.78E-02
99	0.90	0.	1.68E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.20E-02	4.59E-02
100	0.80	0.	7.91E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.20E-02	5.28E-02
101	0.70	0.	1.84E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-01	6.08E-02
102	0.60	0.	3.87E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.57E-01	6.57E-02
														2.53E-01	7.35E-02
														1.43E-02	1.43E-02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		20000.		DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	U2 S-K	U2 S-K	U2 S-K	U2 S-K	U2 S-K	U2 S-K	U2 S-K	U2 S-K	U2 S-K	U2 S-K	U2 S-K	U2 S-K	U2 S-K
1	10.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 20000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY	U2 BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	D- PHOTO-DET	FREE-FREE (IUNS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	8.62E-23	0.	0.	9.51E-15	6.12E-14	0.	0.	1.26E-08	3.36E-06	1.37E-05	8.38E-06	2.54E-05
53	5.50	0.	0.	0.	1.16E-14	5.67E-14	0.	0.	1.27E-08	3.55E-06	1.40E-05	8.47E-06	2.61E-05
54	5.40	0.	0.	0.	1.08E-14	4.70E-14	0.	0.	1.28E-08	3.76E-06	1.44E-05	8.57E-06	2.68E-05
55	5.30	0.	0.	0.	1.11E-14	5.86E-14	0.	0.	1.28E-08	3.98E-06	1.48E-05	8.69E-06	2.75E-05
56	5.20	0.	0.	0.	1.20E-14	4.55E-14	0.	0.	1.29E-08	4.21E-06	1.33E-05	8.77E-06	2.83E-05
57	5.10	0.	0.	0.	1.20E-14	5.81E-14	0.	0.	1.30E-08	4.47E-06	1.37E-05	8.92E-06	2.91E-05
58	5.00	1.20E-15	0.	0.	1.20E-14	5.52E-14	0.	0.	1.31E-08	4.75E-06	1.42E-05	9.06E-06	2.80E-05
59	4.90	2.95E-15	0.	0.	1.24E-14	6.08E-14	0.	0.	1.33E-08	5.05E-06	1.47E-05	9.23E-06	2.90E-05
60	4.80	5.59E-15	0.	0.	1.33E-14	5.73E-14	0.	0.	1.34E-08	5.37E-06	1.52E-05	9.43E-06	3.00E-05
61	4.70	7.62E-15	0.	0.	1.34E-14	5.23E-14	0.	0.	1.35E-08	5.73E-06	1.58E-05	9.68E-06	3.12E-05
62	4.60	1.06E-14	0.	0.	1.39E-14	4.74E-14	0.	0.	1.36E-08	6.11E-06	1.65E-05	9.94E-06	3.26E-05
63	4.50	1.12E-14	0.	1.27E-14	1.28E-14	3.58E-14	0.	0.	1.37E-08	6.54E-06	1.74E-05	1.02E-05	3.42E-05
64	4.40	1.21E-14	0.	3.73E-14	1.29E-14	2.45E-14	0.	0.	1.38E-08	7.00E-06	1.83E-05	1.05E-05	3.58E-05
65	4.30	1.15E-14	0.	1.27E-13	1.24E-14	1.55E-14	0.	0.	1.39E-08	7.50E-06	1.93E-05	1.08E-05	3.76E-05
66	4.20	1.06E-14	0.	3.94E-13	1.31E-14	1.07E-14	0.	0.	1.40E-08	8.06E-06	2.03E-05	1.11E-05	3.94E-05
67	4.10	1.02E-14	0.	1.80E-13	1.29E-14	3.01E-15	0.	0.	1.41E-08	8.67E-06	2.13E-05	1.10E-05	4.10E-05
68	4.00	9.52E-15	0.	5.71E-13	1.26E-14	2.26E-15	0.	0.	1.41E-08	9.34E-06	2.23E-05	1.11E-05	4.27E-05
69	3.90	8.16E-15	0.	2.70E-13	1.17E-14	8.44E-16	0.	0.	1.41E-08	1.01E-05	2.19E-05	1.09E-05	4.44E-05
70	3.80	8.99E-15	0.	4.35E-13	1.27E-14	0.	0.	0.	1.40E-08	1.09E-05	2.19E-05	1.09E-05	4.61E-05
71	3.70	8.09E-15	0.	4.45E-13	1.10E-14	0.	0.	0.	1.38E-08	1.18E-05	2.19E-05	1.09E-05	4.78E-05
72	3.60	7.35E-15	0.	3.25E-13	1.18E-14	0.	0.	0.	1.29E-08	1.28E-05	2.06E-05	1.09E-05	4.95E-05
73	3.50	6.93E-15	0.	4.24E-13	1.30E-14	9.49E-15	0.	0.	1.18E-08	1.40E-05	2.19E-05	1.09E-05	5.12E-05
74	3.40	6.42E-15	0.	2.77E-13	1.07E-14	0.	0.	0.	6.83E-09	1.53E-05	2.41E-05	8.10E-06	5.29E-05
75	3.30	5.16E-15	0.	2.83E-13	8.64E-15	0.	0.	0.	6.84E-09	1.68E-05	2.65E-05	8.85E-06	5.46E-05
76	3.20	4.55E-15	0.	1.88E-13	9.12E-15	0.	0.	0.	6.85E-09	1.84E-05	2.89E-05	9.64E-06	5.63E-05
77	3.10	4.40E-15	0.	1.47E-13	8.58E-15	0.	0.	0.	6.87E-09	2.03E-05	3.14E-05	1.04E-05	5.80E-05
78	3.00	3.98E-15	0.	9.12E-14	1.90E-10	8.31E-15	0.	0.	6.88E-09	2.24E-05	3.39E-05	1.12E-05	6.07E-05
79	2.90	3.39E-15	0.	5.76E-14	1.03E-10	6.44E-15	0.	0.	6.89E-09	2.49E-05	3.66E-05	1.21E-05	6.34E-05
80	2.80	3.55E-15	0.	2.78E-14	7.08E-11	4.57E-15	0.	0.	6.90E-09	2.77E-05	3.98E-05	1.31E-05	6.61E-05
81	2.70	2.33E-15	0.	1.31E-14	8.96E-11	2.55E-15	0.	0.	6.90E-09	3.09E-05	4.11E-05	1.42E-05	6.88E-05
82	2.60	1.12E-15	0.	6.29E-15	9.36E-12	1.14E-15	0.	0.	6.90E-09	3.47E-05	4.45E-05	1.53E-05	7.15E-05
83	2.50	7.92E-17	0.	6.58E-16	9.13E-12	2.75E-16	0.	0.	6.90E-09	3.91E-05	5.04E-05	1.64E-05	7.42E-05
84	2.40	0.	2.92E-14	0.	7.01E-12	2.96E-17	0.	0.	6.90E-09	4.43E-05	5.35E-05	1.75E-05	7.69E-05
85	2.30	0.	8.62E-14	0.	0.	0.	0.	0.	6.85E-09	5.04E-05	5.26E-05	1.86E-05	7.96E-05
86	2.20	0.	2.30E-13	0.	0.	0.	0.	0.	6.82E-09	5.78E-05	6.20E-05	1.97E-05	8.23E-05
87	2.10	0.	2.36E-13	0.	0.	0.	0.	0.	6.79E-09	6.66E-05	7.21E-05	2.08E-05	8.50E-05
88	2.00	0.	4.71E-13	0.	0.	0.	0.	0.	6.57E-09	7.72E-05	8.22E-05	2.19E-05	8.77E-05
89	1.90	0.	5.67E-13	0.	0.	0.	0.	0.	6.32E-09	9.02E-05	9.41E-05	2.30E-05	9.04E-05
90	1.80	0.	4.85E-13	0.	0.	0.	0.	0.	6.05E-09	1.06E-04	1.12E-04	2.41E-05	9.31E-05
91	1.70	0.	5.51E-13	0.	0.	0.	0.	0.	5.70E-09	1.27E-04	1.35E-04	2.52E-05	9.58E-05
92	1.60	0.	4.15E-13	0.	0.	0.	0.	0.	4.82E-09	1.53E-04	1.57E-04	2.63E-05	9.85E-05
93	1.50	0.	4.74E-13	0.	0.	0.	0.	0.	2.19E-09	1.87E-04	2.04E-04	2.74E-05	1.01E-04
94	1.40	0.	4.67E-13	0.	0.	0.	0.	0.	0.	2.31E-04	2.43E-04	2.85E-05	1.04E-04
95	1.30	0.	3.58E-13	0.	0.	0.	0.	0.	0.	2.90E-04	3.39E-04	3.06E-05	1.07E-04
96	1.20	0.	3.41E-13	0.	0.	0.	0.	0.	0.	3.70E-04	4.61E-04	3.27E-05	1.10E-04
97	1.10	0.	3.30E-13	0.	0.	0.	0.	0.	0.	4.82E-04	5.59E-04	3.48E-05	1.13E-04
98	1.00	0.	3.03E-13	0.	0.	0.	0.	0.	0.	6.47E-04	7.40E-04	3.69E-05	1.16E-04
99	0.90	0.	2.48E-13	0.	0.	0.	0.	0.	0.	8.96E-04	1.00E-03	3.90E-05	1.19E-04
100	0.80	0.	1.17E-13	0.	0.	0.	0.	0.	0.	1.29E-03	1.40E-03	4.11E-05	1.22E-04
101	0.70	0.	2.71E-14	0.	0.	0.	0.	0.	0.	1.95E-03	2.00E-03	4.32E-05	1.25E-04
102	0.60	0.	5.71E-15	0.	0.	0.	0.	0.	0.	3.15E-03	3.12E-03	4.53E-05	1.28E-04

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 H-H NO. 1	NO BETA	NO GAMMA	NO 2	PHOTO-DET (IONS)	FREE-FREE N	P.E.	TOTAL AIR
1 10.70 0.		0.	1.14E-16	0.	0.	0.	1.31E-11	5.52E-09	7.10E-07	9.26E-08
2 10.60 0.		0.	1.04E-16	0.	0.	0.	1.31E-11	5.68E-09	7.19E-07	9.23E-08
3 10.50 0.		0.	1.06E-16	0.	0.	0.	1.32E-11	5.84E-09	7.43E-07	9.19E-08
4 10.40 0.		0.	1.01E-16	0.	0.	0.	1.32E-11	6.02E-09	7.45E-07	9.15E-08
5 10.30 0.		0.	8.91E-17	0.	0.	0.	1.32E-11	6.19E-09	7.46E-07	9.12E-08
6 10.20 0.		0.	9.26E-17	0.	0.	0.	1.32E-11	6.38E-09	7.48E-07	9.08E-08
7 10.10 0.		0.	8.77E-17	0.	0.	0.	1.32E-11	6.57E-09	7.50E-07	9.05E-08
8 10.00 0.		0.	7.79E-17	0.	0.	0.	1.32E-11	6.77E-09	7.53E-07	9.02E-08
9 9.90 0.		0.	8.01E-17	0.	0.	0.	1.33E-11	6.98E-09	7.55E-07	8.98E-08
10 9.80 0.		0.	7.59E-17	0.	0.	0.	1.33E-11	7.20E-09	7.57E-07	8.95E-08
11 9.70 0.		0.	6.63E-17	0.	0.	0.	1.33E-11	7.43E-09	7.60E-07	8.92E-08
12 9.60 0.		0.	7.18E-17	0.	0.	0.	1.33E-11	7.66E-09	7.62E-07	8.88E-08
13 9.50 0.		0.	6.21E-17	0.	0.	0.	1.34E-11	7.91E-09	7.65E-07	8.85E-08
14 9.40 0.		0.	5.93E-17	0.	0.	0.	1.34E-11	8.17E-09	7.67E-07	8.82E-08
15 9.30 0.		0.	6.10E-17	0.	0.	0.	1.35E-11	8.43E-09	7.70E-07	8.79E-08
16 9.20 0.		0.	5.13E-17	0.	0.	0.	1.35E-11	8.72E-09	7.72E-07	8.75E-08
17 9.10 0.		0.	5.28E-17	0.	0.	0.	1.36E-11	9.01E-09	7.74E-07	8.72E-08
18 9.00 0.		0.	4.85E-17	0.	0.	0.	1.36E-11	9.31E-09	7.76E-07	8.69E-08
19 8.90 0.		0.	4.53E-17	0.	0.	0.	1.37E-11	9.63E-09	7.78E-07	8.66E-08
20 8.80 0.		0.	4.47E-17	0.	0.	0.	1.37E-11	9.97E-09	7.80E-07	8.63E-08
21 8.70 0.		0.	3.93E-17	0.	0.	0.	1.38E-11	1.03E-08	7.82E-07	8.61E-08
22 8.60 0.		0.	4.07E-17	0.	0.	0.	1.38E-11	1.07E-08	7.84E-07	8.60E-08
23 8.50 0.		0.	3.61E-17	0.	0.	0.	1.38E-11	1.11E-08	7.86E-07	8.58E-08
24 8.40 0.		0.	3.60E-17	0.	0.	0.	1.39E-11	1.15E-08	7.88E-07	8.56E-08
25 8.30 0.		0.	3.10E-17	0.	0.	0.	1.40E-11	1.19E-08	7.90E-07	8.54E-08
26 8.20 0.		0.	3.15E-17	0.	0.	0.	1.41E-11	1.23E-08	7.92E-07	8.52E-08
27 8.10 0.		0.	2.75E-17	0.	0.	0.	1.41E-11	1.28E-08	7.94E-07	8.50E-08
28 8.00 0.		0.	2.78E-17	0.	0.	0.	1.42E-11	1.33E-08	7.96E-07	8.48E-08
29 7.90 0.		0.	2.42E-17	0.	0.	0.	1.43E-11	1.38E-08	7.98E-07	8.46E-08
30 7.80 0.		0.	2.52E-17	0.	0.	0.	1.44E-11	1.44E-08	8.00E-07	8.44E-08
31 7.70 0.		0.	2.24E-17	0.	0.	0.	1.44E-11	1.49E-08	8.02E-07	8.42E-08
32 7.60 0.		0.	2.14E-17	0.	0.	0.	1.45E-11	1.55E-08	8.04E-07	8.40E-08
33 7.50 0.		0.	2.01E-17	0.	0.	0.	1.46E-11	1.62E-08	8.06E-07	8.38E-08
34 7.40 0.		0.	1.82E-17	0.	0.	0.	1.47E-11	1.68E-08	8.08E-07	8.36E-08
35 7.30 0.		0.	1.74E-17	0.	0.	0.	1.47E-11	1.75E-08	8.10E-07	8.34E-08
36 7.20 0.		0.	1.58E-17	0.	0.	0.	1.48E-11	1.83E-08	8.12E-07	8.32E-08
37 7.10 0.		0.	1.53E-17	0.	0.	0.	1.49E-11	1.91E-08	8.14E-07	8.30E-08
38 7.00 6.91E-21		0.	1.42E-17	0.	0.	0.	1.51E-11	1.99E-08	8.16E-07	8.28E-08
39 6.90 1.36E-20		0.	1.31E-17	0.	0.	0.	1.52E-11	2.08E-08	8.18E-07	8.26E-08
40 6.80 1.18E-20		0.	1.28E-17	0.	0.	0.	1.53E-11	2.17E-08	8.20E-07	8.24E-08
41 6.70 8.62E-21		0.	1.13E-17	0.	0.	0.	1.54E-11	2.27E-08	8.22E-07	8.22E-08
42 6.60 5.29E-21		0.	1.02E-17	0.	0.	0.	1.56E-11	2.38E-08	8.24E-07	8.20E-08
43 6.50 3.07E-21		0.	8.24E-18	0.	0.	0.	1.57E-11	2.49E-08	8.26E-07	8.18E-08
44 6.40 1.77E-21		0.	5.79E-18	0.	0.	0.	1.58E-11	2.61E-08	8.28E-07	8.16E-08
45 6.30 1.04E-21		0.	3.68E-18	0.	0.	0.	1.59E-11	2.74E-08	8.30E-07	8.14E-08
46 6.20 4.72E-22		0.	2.07E-18	0.	0.	0.	1.60E-11	2.88E-08	8.32E-07	8.12E-08
47 6.10 2.19E-22		0.	9.87E-19	0.	0.	0.	1.62E-11	3.02E-08	8.34E-07	8.10E-08
48 6.00 9.19E-23		0.	2.53E-19	0.	0.	0.	1.63E-11	3.18E-08	8.36E-07	8.08E-08
49 5.90 2.27E-23		0.	1.82E-20	0.	0.	0.	1.63E-11	3.34E-08	8.38E-07	8.06E-08
50 5.80 2.90E-24		0.	4.59E-22	0.	0.	0.	1.60E-11	3.52E-08	8.40E-07	8.04E-08
51 5.70 2.14E-25		0.	0.	0.	0.	0.	1.51E-11	3.71E-08	8.42E-07	8.02E-08

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 20000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N2 BETA	NO GAMMA	NO VIR-ROT	NO 2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	9.68E-27	0.	0.	1.02E-18	6.58E-18	0.	1.40E-11	3.91E-08	1.76E-07	9.02E-08	3.05E-07
53	5.50	0.	0.	0.	1.25E-18	6.10E-18	0.	1.41E-11	4.13E-08	1.82E-07	9.12E-08	3.15E-07
54	5.40	0.	0.	0.	1.16E-18	5.05E-18	0.	1.42E-11	4.37E-08	1.89E-07	9.24E-08	3.25E-07
55	5.30	0.	0.	0.	1.19E-18	6.30E-18	0.	1.42E-11	4.63E-08	1.97E-07	9.38E-08	3.37E-07
56	5.20	0.	0.	0.	1.29E-18	6.89E-18	0.	1.43E-11	4.90E-08	2.04E-07	9.55E-08	3.48E-07
57	5.10	0.	0.	0.	1.29E-18	6.25E-18	0.	1.45E-11	5.20E-08	2.12E-07	9.71E-08	3.61E-07
58	5.00	1.35E-19	0.	0.	1.19E-18	5.94E-18	0.	1.46E-11	5.52E-08	2.20E-07	9.88E-08	3.74E-07
59	4.90	3.31E-19	0.	0.	1.33E-18	6.54E-18	0.	1.47E-11	5.87E-08	2.29E-07	9.98E-08	3.87E-07
60	4.80	6.28E-19	0.	0.	1.43E-18	6.16E-18	0.	1.48E-11	6.25E-08	2.38E-07	1.02E-07	4.02E-07
61	4.70	8.56E-19	0.	0.	1.44E-18	5.62E-18	0.	1.49E-11	6.66E-08	2.49E-07	1.05E-07	4.20E-07
62	4.60	1.19E-18	0.	0.	1.49E-18	5.10E-18	0.	1.51E-11	7.11E-08	2.63E-07	1.08E-07	4.42E-07
63	4.50	1.26E-18	0.	1.31E-18	1.38E-18	3.85E-18	0.	1.52E-11	7.60E-08	2.79E-07	1.11E-07	4.65E-07
64	4.40	1.36E-18	0.	3.85E-18	1.39E-18	2.63E-18	0.	1.53E-11	8.14E-08	2.95E-07	1.14E-07	4.90E-07
65	4.30	1.30E-18	0.	1.31E-17	1.34E-18	1.67E-18	0.	1.54E-11	8.72E-08	3.11E-07	1.14E-07	5.12E-07
66	4.20	1.22E-18	0.	4.06E-17	1.41E-18	1.19E-18	0.	1.56E-11	9.37E-08	3.30E-07	1.01E-07	5.24E-07
67	4.10	1.15E-18	0.	1.85E-17	1.39E-18	3.24E-19	0.	1.56E-11	1.01E-07	3.48E-07	5.69E-08	5.06E-07
68	4.00	1.07E-18	0.	5.88E-17	1.35E-18	2.43E-19	0.	1.57E-11	1.09E-07	3.49E-07	5.90E-08	5.16E-07
69	3.90	9.17E-19	0.	2.79E-17	1.26E-18	9.04E-20	0.	1.56E-11	1.17E-07	3.26E-07	6.08E-08	5.04E-07
70	3.80	1.01E-18	0.	4.49E-17	1.36E-18	0.	0.	1.56E-11	1.27E-07	3.43E-07	6.36E-08	5.33E-07
71	3.70	9.08E-19	0.	4.59E-17	1.38E-18	0.	0.	1.53E-11	1.37E-07	3.52E-07	6.93E-08	5.59E-07
72	3.60	8.25E-19	0.	3.35E-17	1.80E-13	1.27E-18	0.	1.43E-11	1.49E-07	3.76E-07	7.56E-08	6.01E-07
73	3.50	7.70E-19	0.	4.37E-17	3.25E-13	1.02E-18	0.	1.31E-11	1.63E-07	4.04E-07	8.28E-08	6.50E-07
74	3.40	7.20E-19	0.	2.85E-17	5.32E-14	1.15E-18	0.	7.57E-12	1.78E-07	4.38E-07	9.10E-08	7.06E-07
75	3.30	5.80E-19	0.	2.92E-17	1.97E-13	9.29E-19	0.	7.58E-12	1.95E-07	4.71E-07	9.92E-08	7.65E-07
76	3.20	5.10E-19	0.	1.94E-17	3.13E-13	9.89E-19	0.	7.60E-12	2.14E-07	3.43E-07	1.07E-07	6.66E-07
77	3.10	4.94E-19	0.	1.52E-17	8.44E-14	9.37E-19	0.	7.61E-12	2.36E-07	3.73E-07	1.16E-07	7.25E-07
78	3.00	4.47E-19	0.	9.40E-18	1.87E-13	8.94E-19	0.	7.63E-12	2.60E-07	4.07E-07	1.25E-07	7.93E-07
79	2.90	3.80E-19	0.	5.93E-18	1.02E-13	6.93E-19	0.	7.64E-12	2.89E-07	4.43E-07	1.33E-07	8.65E-07
80	2.80	3.99E-19	0.	2.84E-18	6.97E-14	4.91E-19	0.	7.66E-12	3.21E-07	4.83E-07	1.42E-07	9.47E-07
81	2.70	2.61E-19	0.	1.35E-18	8.82E-14	2.74E-19	0.	7.66E-12	3.59E-07	5.26E-07	1.51E-07	1.02E-06
82	2.60	1.26E-19	0.	6.48E-19	9.21E-15	1.23E-19	0.	7.66E-12	4.03E-07	5.67E-07	1.60E-08	1.06E-06
83	2.50	8.89E-21	0.	6.79E-20	8.99E-15	2.96E-20	0.	7.66E-12	4.54E-07	4.93E-07	1.03E-07	1.05E-06
84	2.40	0.	3.01E-18	0.	0.	0.	0.	7.66E-12	5.14E-07	5.90E-07	1.25E-07	1.23E-06
85	2.30	0.	8.89E-18	0.	0.	0.	0.	7.60E-12	5.85E-07	6.99E-07	1.49E-07	1.43E-06
86	2.20	0.	2.37E-17	0.	0.	0.	0.	7.57E-12	6.71E-07	8.13E-07	1.77E-07	1.66E-06
87	2.10	0.	2.43E-17	0.	0.	0.	0.	7.53E-12	7.73E-07	9.32E-07	2.05E-07	1.91E-06
88	2.00	0.	4.85E-17	0.	0.	0.	0.	7.29E-12	8.96E-07	1.05E-06	2.33E-07	2.18E-06
89	1.90	0.	5.04E-17	0.	0.	0.	0.	7.01E-12	1.05E-06	1.19E-06	2.72E-07	2.51E-06
90	1.80	0.	5.00E-17	0.	0.	0.	0.	6.71E-12	1.23E-06	1.39E-06	3.29E-07	2.96E-06
91	1.70	0.	5.68E-17	0.	0.	0.	0.	6.32E-12	1.47E-06	1.47E-06	3.93E-07	3.33E-06
92	1.60	0.	4.28E-17	0.	0.	0.	0.	5.35E-12	1.78E-06	1.71E-06	4.46E-07	3.93E-06
93	1.50	0.	4.88E-17	0.	0.	0.	0.	2.43E-12	2.17E-06	2.08E-06	5.43E-07	4.80E-06
94	1.40	0.	4.81E-17	0.	0.	0.	0.	0.	2.68E-06	2.03E-06	6.18E-07	5.33E-06
95	1.30	0.	3.69E-17	0.	0.	0.	0.	0.	3.36E-06	2.95E-06	6.66E-07	6.98E-06
96	1.20	0.	3.52E-17	0.	0.	0.	0.	0.	4.29E-06	3.85E-06	8.90E-07	9.03E-06
97	1.10	0.	3.40E-17	0.	0.	0.	0.	0.	5.59E-06	4.86E-06	1.05E-06	1.15E-05
98	1.00	0.	3.12E-17	0.	0.	0.	0.	0.	7.50E-06	5.73E-06	1.27E-06	1.45E-05
99	0.90	0.	2.56E-17	0.	0.	0.	0.	0.	1.04E-05	6.48E-06	1.48E-06	1.83E-05
100	0.80	0.	1.20E-17	0.	0.	0.	0.	0.	1.49E-05	7.14E-06	1.53E-06	2.36E-05
101	0.70	0.	2.79E-18	0.	0.	0.	0.	0.	2.26E-05	6.74E-06	1.33E-06	3.06E-05
102	0.60	0.	5.88E-19	0.	0.	0.	0.	0.	3.65E-05	7.59E-06	1.50E-06	4.55E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 20000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	W2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.		0.	9.09E-21	0.	0.	0.	1.80E-14	1.00E-10	1.09E-08	1.38E-09	1.24E-08
2 10.60 0.		0.	8.33E-21	0.	0.	0.	1.80E-14	1.03E-10	1.10E-08	1.37E-09	1.25E-08
3 10.50 0.		0.	8.46E-21	0.	0.	0.	1.80E-14	1.06E-10	1.11E-08	1.37E-09	1.26E-08
4 10.40 0.		0.	8.09E-21	0.	0.	0.	1.80E-14	1.09E-10	1.12E-08	1.37E-09	1.26E-08
5 10.30 0.		0.	7.12E-21	0.	0.	0.	1.80E-14	1.13E-10	1.12E-08	1.36E-09	1.27E-08
6 10.20 0.		0.	7.40E-21	0.	0.	0.	1.81E-14	1.16E-10	1.14E-08	1.36E-09	1.29E-08
7 10.10 0.		0.	7.01E-21	0.	0.	0.	1.81E-14	1.20E-10	1.15E-08	1.36E-09	1.30E-08
8 10.00 0.		0.	6.22E-21	0.	0.	0.	1.81E-14	1.23E-10	1.17E-08	1.36E-09	1.32E-08
9 9.90 0.		0.	6.40E-21	0.	0.	0.	1.82E-14	1.27E-10	1.18E-08	1.36E-09	1.33E-08
10 9.80 0.		0.	6.07E-21	0.	0.	0.	1.82E-14	1.31E-10	1.20E-08	1.36E-09	1.35E-08
11 9.70 0.		0.	5.30E-21	0.	0.	0.	1.82E-14	1.35E-10	1.21E-08	1.36E-09	1.36E-08
12 9.60 0.		0.	5.74E-21	0.	0.	0.	1.83E-14	1.39E-10	1.23E-08	1.36E-09	1.38E-08
13 9.50 0.		0.	4.97E-21	0.	0.	0.	1.83E-14	1.44E-10	1.24E-08	1.36E-09	1.39E-08
14 9.40 0.		0.	4.74E-21	0.	0.	0.	1.84E-14	1.48E-10	1.25E-08	1.36E-09	1.41E-08
15 9.30 0.		0.	4.87E-21	0.	0.	0.	1.84E-14	1.53E-10	1.14E-08	1.36E-09	1.30E-08
16 9.20 0.		0.	4.10E-21	0.	0.	0.	1.85E-14	1.58E-10	1.16E-08	1.36E-09	1.31E-08
17 9.10 0.		0.	4.22E-21	0.	0.	0.	1.86E-14	1.64E-10	1.17E-08	1.36E-09	1.32E-08
18 9.00 0.		0.	3.87E-21	0.	0.	0.	1.86E-14	1.69E-10	1.19E-08	1.36E-09	1.34E-08
19 8.90 0.		0.	3.62E-21	0.	0.	0.	1.87E-14	1.75E-10	1.20E-08	1.19E-09	1.34E-08
20 8.80 0.		0.	3.57E-21	0.	0.	0.	1.88E-14	1.81E-10	1.21E-08	1.17E-09	1.35E-08
21 8.70 0.		0.	3.14E-21	0.	0.	0.	1.88E-14	1.87E-10	1.23E-08	1.17E-09	1.36E-08
22 8.60 0.		0.	3.25E-21	0.	0.	0.	1.89E-14	1.94E-10	1.24E-08	1.18E-09	1.38E-08
23 8.50 0.		0.	2.88E-21	0.	0.	0.	1.90E-14	2.01E-10	1.26E-08	1.18E-09	1.40E-08
24 8.40 0.		0.	2.88E-21	0.	0.	0.	1.91E-14	2.08E-10	1.27E-08	1.18E-09	1.41E-08
25 8.30 0.		0.	2.47E-21	0.	0.	0.	1.92E-14	2.16E-10	7.22E-09	1.19E-09	8.63E-09
26 8.20 0.		0.	2.51E-21	0.	0.	0.	1.93E-14	2.24E-10	7.50E-09	1.20E-09	8.92E-09
27 8.10 0.		0.	2.20E-21	0.	0.	0.	1.94E-14	2.33E-10	7.78E-09	1.21E-09	9.22E-09
28 8.00 0.		0.	2.22E-21	0.	0.	0.	1.95E-14	2.42E-10	8.05E-09	1.22E-09	9.52E-09
29 7.90 0.		0.	1.93E-21	0.	0.	0.	1.95E-14	2.51E-10	8.33E-09	1.24E-09	9.82E-09
30 7.80 0.		0.	2.02E-21	0.	0.	0.	1.96E-14	2.61E-10	8.61E-09	1.25E-09	1.01E-08
31 7.70 0.		0.	1.79E-21	0.	0.	0.	1.97E-14	2.71E-10	8.92E-09	1.26E-09	1.05E-08
32 7.60 0.		0.	1.71E-21	0.	1.50E-25	0.	1.98E-14	2.82E-10	9.26E-09	1.28E-09	1.08E-08
33 7.50 0.		0.	1.60E-21	0.	4.89E-25	0.	1.99E-14	2.94E-10	9.60E-09	1.29E-09	1.12E-08
34 7.40 0.		0.	1.45E-21	0.	4.32E-24	0.	2.01E-14	3.06E-10	9.94E-09	1.30E-09	1.16E-08
35 7.30 0.		0.	1.39E-21	0.	1.66E-23	0.	2.02E-14	3.19E-10	9.32E-09	1.32E-09	1.10E-08
36 7.20 0.		0.	1.26E-21	0.	4.61E-23	0.	2.03E-14	3.32E-10	9.81E-09	1.34E-09	1.15E-08
37 7.10 0.		0.	1.22E-21	0.	1.45E-22	0.	2.05E-14	3.46E-10	1.03E-08	1.37E-09	1.20E-08
38 7.00 9.06E-25		0.	1.13E-21	0.	2.80E-22	0.	2.06E-14	3.61E-10	1.08E-08	1.39E-09	1.25E-08
39 6.90 1.78E-24		0.	1.05E-21	0.	4.03E-22	0.	2.08E-14	3.77E-10	1.13E-08	1.41E-09	1.31E-08
40 6.80 1.51E-24		0.	1.02E-21	0.	6.80E-22	0.	2.09E-14	3.94E-10	1.18E-08	1.44E-09	1.36E-08
41 6.70 1.13E-24		0.	9.02E-22	0.	6.62E-22	0.	2.11E-14	4.12E-10	1.23E-08	1.46E-09	1.41E-08
42 6.60 6.94E-25		0.	8.17E-22	0.	5.63E-22	0.	2.13E-14	4.32E-10	1.28E-08	1.49E-09	1.47E-08
43 6.50 4.03E-25		0.	6.58E-22	0.	8.07E-22	0.	2.14E-14	4.52E-10	1.32E-08	1.51E-09	1.52E-08
44 6.40 2.33E-25		0.	4.63E-22	2.58E-24	7.47E-22	0.	2.16E-14	4.74E-10	1.37E-08	1.54E-09	1.58E-08
45 6.30 1.36E-25		0.	2.94E-22	1.23E-23	5.54E-22	0.	2.18E-14	4.97E-10	1.42E-08	1.57E-09	1.63E-08
46 6.20 6.11E-26		0.	1.65E-22	1.76E-23	7.47E-22	0.	2.19E-14	5.21E-10	1.48E-08	1.60E-09	1.69E-08
47 6.10 2.87E-26		0.	7.89E-23	5.05E-23	9.09E-22	0.	2.21E-14	5.47E-10	1.53E-08	1.63E-09	1.75E-08
48 6.00 1.21E-26		0.	2.02E-23	4.92E-23	4.58E-22	0.	2.23E-14	5.75E-10	4.79E-09	1.17E-09	6.53E-09
49 5.90 2.98E-27		0.	1.45E-24	7.26E-23	4.43E-22	0.	2.23E-14	6.05E-10	4.94E-09	1.18E-09	6.73E-09
50 5.80 3.81E-28		0.	3.67E-26	1.02E-22	4.63E-22	0.	2.19E-14	6.37E-10	5.10E-09	1.19E-09	6.93E-09
51 5.70 2.81E-29		0.	0.	1.21E-22	5.18E-22	0.	2.06E-14	6.72E-10	5.32E-09	1.21E-09	7.20E-09

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		20000.		1.293E-08 (1.0E-05 NORMAL)		O-		FRFEE-DEI (IONS)		N		P.E.		TOTAL AIR	
PHOTON U2 S-R	N2	N2	N2	N2	N2	N2	N2	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.
52	5.60	1.27E-30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
53	5.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
54	5.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	5.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	5.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	5.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	5.00	1.77E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	4.90	4.3E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	4.80	8.24E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	4.70	1.12E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	4.60	1.56E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
63	4.50	1.64E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
64	4.40	1.78E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
65	4.30	1.7E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
66	4.20	1.60E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
67	4.10	1.51E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
68	4.00	1.40E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
69	3.90	1.20E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	3.80	1.35E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	3.70	1.19E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
72	3.60	1.06E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
73	3.50	1.02E-22	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
74	3.40	9.46E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
75	3.30	7.61E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
76	3.20	6.70E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
77	3.10	6.48E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
78	3.00	5.87E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
79	2.90	4.99E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	2.80	5.24E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
81	2.70	3.43E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82	2.60	1.65E-23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
83	2.50	1.17E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
84	2.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		2000C.		DENSITY (GM/CC)		1.293E-09 (1.0E-06 NORMAL)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR	
PHOTO. U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R	U2 S-R
ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS	ENERGY BANDS
E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.	E.V.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
10.70	10.60	10.50	10.40	10.30	10.20	10.10	10.00	9.90	9.80	9.70	9.60	9.50	9.40	9.30	9.20
1.97E-25	1.81E-25	1.84E-25	1.76E-25	1.55E-25	1.61E-25	1.52E-25	1.39E-25	1.32E-25	1.15E-25	1.25E-25	1.08E-25	1.03E-25	1.06E-25	8.90E-26	9.16E-26
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
9.00	8.90	8.80	8.70	8.60	8.50	8.40	8.30	8.20	8.10	8.00	7.90	7.80	7.70	7.60	7.50
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
7.40	7.30	7.20	7.10	7.00	6.90	6.80	6.70	6.60	6.50	6.40	6.30	6.20	6.10	6.00	5.90
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33	2.91E-33



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-09 (1.0E-06 NORMAL)		FREE-FREE		O-		PHOTO-DET (IONS)		N		P.E.		TOTAL AIR	
PHOTON ENERGY	WAVELENGTH	TEMPERATURE	DENSITY	1.293E-09	DENSITY	FREE-FREE	O-	PHOTO-DET	N	P.E.	FREE-FREE	O-	PHOTO-DET	N	P.E.	FREE-FREE	O-
1ST POS.	2ND POS.	3RD POS.	4TH POS.	5TH POS.	6TH POS.	7TH POS.	8TH POS.	9TH POS.	10TH POS.	11TH POS.	12TH POS.	13TH POS.	14TH POS.	15TH POS.	16TH POS.	17TH POS.	18TH POS.
52	5.60	1.32E-34	0.	0.	0.	4.97E-27	3.20E-26	0.	0.	2.60E-17	1.61E-11	1.65E-10	2.70E-11	2.70E-11	2.08E-10	0.	0.
53	5.50	0.	0.	0.	0.	6.08E-27	2.96E-26	0.	0.	2.61E-17	1.70E-11	1.75E-10	2.78E-11	2.78E-11	2.19E-10	0.	0.
54	5.40	0.	0.	0.	0.	5.65E-27	2.45E-26	0.	0.	2.63E-17	1.79E-11	1.85E-10	2.89E-11	2.89E-11	2.32E-10	0.	0.
55	5.30	0.	0.	0.	0.	5.79E-27	3.06E-26	0.	0.	2.64E-17	1.90E-11	1.96E-10	3.02E-11	3.02E-11	2.45E-10	0.	0.
56	5.20	0.	0.	0.	0.	6.27E-27	2.38E-26	0.	0.	2.66E-17	2.01E-11	2.06E-10	3.25E-11	3.25E-11	2.52E-10	0.	0.
57	5.10	0.	0.	0.	0.	6.28E-27	3.04E-26	0.	0.	2.68E-17	2.13E-11	2.17E-10	3.42E-11	3.42E-11	2.64E-10	0.	0.
58	5.00	1.84E-27	0.	0.	0.	5.77E-27	2.69E-26	0.	0.	2.71E-17	2.26E-11	2.27E-10	3.61E-11	3.61E-11	2.77E-10	0.	0.
59	4.90	4.51E-27	0.	0.	0.	6.46E-27	3.18E-26	0.	0.	2.73E-17	2.41E-11	2.38E-10	3.84E-11	3.84E-11	2.91E-10	0.	0.
60	4.80	8.54E-27	0.	0.	0.	6.96E-27	3.00E-26	0.	0.	2.75E-17	2.56E-11	2.49E-10	4.07E-11	4.07E-11	3.04E-10	0.	0.
61	4.70	1.16E-26	0.	0.	0.	7.02E-27	2.73E-26	0.	0.	2.77E-17	2.73E-11	2.64E-10	4.30E-11	4.30E-11	3.23E-10	0.	0.
62	4.60	1.62E-26	0.	0.	0.	7.25E-27	2.48E-26	0.	0.	2.80E-17	2.91E-11	2.85E-10	4.53E-11	4.53E-11	3.46E-10	0.	0.
63	4.50	1.72E-26	0.	0.	0.	6.69E-27	1.87E-26	0.	0.	2.82E-17	3.11E-11	3.05E-10	4.76E-11	4.76E-11	3.70E-10	0.	0.
64	4.40	1.85E-26	0.	0.	0.	6.75E-27	1.28E-26	0.	0.	2.84E-17	3.33E-11	3.25E-10	4.99E-11	4.99E-11	3.94E-10	0.	0.
65	4.30	1.76E-26	0.	0.	0.	6.49E-27	8.10E-27	0.	0.	2.86E-17	3.57E-11	3.46E-10	5.22E-11	5.22E-11	4.15E-10	0.	0.
66	4.20	1.60E-26	0.	0.	0.	6.85E-27	5.60E-27	0.	0.	2.89E-17	3.84E-11	3.69E-10	5.45E-11	5.45E-11	4.38E-10	0.	0.
67	4.10	1.57E-26	0.	0.	0.	6.75E-27	1.58E-27	0.	0.	2.90E-17	4.12E-11	3.94E-10	5.68E-11	5.68E-11	4.68E-10	0.	0.
68	4.00	1.45E-26	0.	0.	0.	6.56E-27	1.18E-27	0.	0.	2.91E-17	4.40E-11	4.16E-10	5.91E-11	5.91E-11	4.96E-10	0.	0.
69	3.90	1.25E-26	0.	0.	0.	6.83E-26	2.06E-21	0.	0.	2.90E-17	4.80E-11	4.41E-10	6.14E-11	6.14E-11	5.27E-10	0.	0.
70	3.80	1.37E-26	0.	0.	0.	7.78E-26	8.27E-21	0.	0.	2.89E-17	5.19E-11	4.66E-10	6.37E-11	6.37E-11	5.57E-10	0.	0.
71	3.70	1.24E-26	0.	0.	0.	7.96E-26	3.79E-21	0.	0.	2.84E-17	5.62E-11	4.90E-10	6.60E-11	6.60E-11	5.89E-10	0.	0.
72	3.60	1.12E-26	0.	0.	0.	5.81E-26	1.96E-20	0.	0.	2.66E-17	6.11E-11	5.15E-10	7.07E-11	7.07E-11	6.17E-10	0.	0.
73	3.50	1.06E-26	0.	0.	0.	7.58E-26	3.54E-20	0.	0.	2.44E-17	6.65E-11	5.47E-10	7.50E-11	7.50E-11	6.57E-10	0.	0.
74	3.40	9.81E-27	0.	0.	0.	4.95E-26	5.80E-21	0.	0.	1.41E-17	7.27E-11	6.00E-10	8.08E-11	8.08E-11	7.29E-10	0.	0.
75	3.30	7.89E-27	0.	0.	0.	5.06E-26	2.15E-20	0.	0.	1.41E-17	7.96E-11	6.72E-10	8.58E-11	8.58E-11	7.89E-10	0.	0.
76	3.20	6.95E-27	0.	0.	0.	3.37E-26	3.41E-20	0.	0.	1.41E-17	8.74E-11	7.47E-10	9.13E-11	9.13E-11	8.15E-10	0.	0.
77	3.10	6.72E-27	0.	0.	0.	2.63E-26	9.20E-21	0.	0.	1.41E-17	9.62E-11	8.24E-10	9.70E-11	9.70E-11	8.56E-10	0.	0.
78	3.00	6.09E-27	0.	0.	0.	1.63E-26	2.04E-20	0.	0.	1.42E-17	1.06E-10	9.22E-10	1.03E-10	1.03E-10	9.37E-10	0.	0.
79	2.90	5.18E-27	0.	0.	0.	1.03E-26	1.11E-20	0.	0.	1.42E-17	1.18E-10	1.00E-10	1.12E-10	1.12E-10	1.00E-10	0.	0.
80	2.80	5.43E-27	0.	0.	0.	4.96E-27	7.60E-21	0.	0.	1.42E-17	1.31E-10	1.08E-10	1.20E-10	1.20E-10	1.08E-10	0.	0.
81	2.70	3.50E-27	0.	0.	0.	2.34E-27	9.62E-21	0.	0.	1.42E-17	1.46E-10	1.26E-10	1.38E-10	1.38E-10	1.26E-10	0.	0.
82	2.60	1.71E-27	0.	0.	0.	1.12E-27	1.00E-21	0.	0.	1.42E-17	1.64E-10	1.38E-10	1.50E-10	1.50E-10	1.38E-10	0.	0.
83	2.50	1.21E-28	0.	0.	0.	1.18E-28	9.80E-22	0.	0.	1.42E-17	1.85E-10	1.50E-10	1.62E-10	1.62E-10	1.50E-10	0.	0.
84	2.40	0.	0.	0.	0.	5.22E-27	0.	0.	0.	1.42E-17	2.09E-10	1.72E-10	1.84E-10	1.84E-10	1.72E-10	0.	0.
85	2.30	0.	0.	0.	0.	1.54E-26	0.	0.	0.	1.41E-17	2.38E-10	1.94E-10	2.06E-10	2.06E-10	1.94E-10	0.	0.
86	2.20	0.	0.	0.	0.	4.12E-26	0.	0.	0.	1.40E-17	2.73E-10	2.20E-10	2.32E-10	2.32E-10	2.20E-10	0.	0.
87	2.10	0.	0.	0.	0.	4.21E-26	0.	0.	0.	1.40E-17	3.14E-10	2.49E-10	2.61E-10	2.61E-10	2.49E-10	0.	0.
88	2.00	0.	0.	0.	0.	8.42E-26	0.	0.	0.	1.35E-17	3.64E-10	2.83E-10	2.95E-10	2.95E-10	2.83E-10	0.	0.
89	1.90	0.	0.	0.	0.	1.01E-25	0.	0.	0.	1.30E-17	4.25E-10	3.18E-10	3.30E-10	3.30E-10	3.18E-10	0.	0.
90	1.80	0.	0.	0.	0.	8.68E-26	0.	0.	0.	1.24E-17	5.01E-10	3.56E-10	3.68E-10	3.68E-10	3.56E-10	0.	0.
91	1.70	0.	0.	0.	0.	9.85E-26	0.	0.	0.	1.24E-17	5.97E-10	4.31E-10	4.43E-10	4.43E-10	4.31E-10	0.	0.
92	1.60	0.	0.	0.	0.	7.43E-26	0.	0.	0.	9.93E-18	7.20E-10	5.31E-10	5.43E-10	5.43E-10	5.31E-10	0.	0.
93	1.50	0.	0.	0.	0.	8.47E-26	0.	0.	0.	4.51E-18	8.77E-10	6.58E-10	6.70E-10	6.70E-10	6.58E-10	0.	0.
94	1.40	0.	0.	0.	0.	8.34E-26	0.	0.	0.	0.	1.08E-09	5.07E-10	5.19E-10	5.19E-10	5.07E-10	0.	0.
95	1.30	0.	0.	0.	0.	6.39E-26	0.	0.	0.	0.	1.36E-09	1.11E-10	1.13E-10	1.13E-10	1.11E-10	0.	0.
96	1.20	0.	0.	0.	0.	6.10E-26	0.	0.	0.	0.	1.73E-09	1.53E-10	1.55E-10	1.55E-10	1.53E-10	0.	0.
97	1.10	0.	0.	0.	0.	5.89E-26	0.	0.	0.	0.	2.26E-09	1.89E-10	1.91E-10	1.91E-10	1.89E-10	0.	0.
98	1.00	0.	0.	0.	0.	5.41E-26	0.	0.	0.	0.	3.02E-09	2.30E-10	2.32E-10	2.32E-10	2.30E-10	0.	0.
99	0.90	0.	0.	0.	0.	4.44E-26	0.	0.	0.	0.	4.17E-09	2.57E-10	2.59E-10	2.59E-10	2.57E-10	0.	0.
100	0.80	0.	0.	0.	0.	2.09E-26	0.	0.	0.	0.	5.99E-09	2.45E-10	2.47E-10	2.47E-10	2.45E-10	0.	0.
101	0.70	0.	0.	0.	0.	4.85E-27	0.	0.	0.	0.	9.02E-09	2.81E-10	2.83E-10	2.83E-10	2.81E-10	0.	0.
102	0.60	0.	0.	0.	0.	1.02E-27	0.	0.	0.	0.	1.45E-08	3.14E-10	3.16E-10	3.16E-10	3.14E-10	0.	0.

TEMPERATURE (DEGREES K) 21000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

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ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 21000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTOX O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR	
52 5.60 1.61E-11 0.	0.	0.	0.	2.50E-03	1.61E-02	0.	0.	5.45E 00 3.49E 00	1.06E 01	5.15E 00	00 2.47E 01	01	
53 5.50 0. 0.	0.	0.	0.	3.06E-03	1.49E-02	0.	0.	5.47E 00 3.68E 00	1.08E 01	5.20E 00	00 2.52E 01	01	
54 5.40 0. 0.	0.	0.	0.	2.86E-03	1.24E-02	0.	0.	5.50E 00 3.89E 00	1.11E 01	5.27E 00	00 2.58E 01	01	
55 5.30 0. 0.	0.	0.	0.	2.93E-03	1.54E-02	0.	0.	5.54E 00 4.12E 00	1.14E 01	5.34E 00	00 2.65E 01	01	
56 5.20 0. 0.	0.	0.	0.	3.18E-03	1.21E-02	0.	0.	5.57E 00 4.37E 00	1.17E 01	5.42E 00	00 2.71E 01	01	
57 5.10 0. 0.	0.	0.	0.	3.19E-03	1.55E-02	0.	0.	5.62E 00 4.63E 00	1.21E 01	5.51E 00	00 2.79E 01	01	
58 5.00 2.26E-04 0.	0.	0.	0.	2.93E-03	1.48E-02	0.	0.	5.67E 00 4.92E 00	1.25E 01	5.60E 00	00 2.87E 01	01	
59 4.90 5.58E-04 0.	0.	0.	0.	3.29E-03	1.63E-02	0.	0.	5.71E 00 5.23E 00	1.29E 01	5.70E 00	00 2.96E 01	01	
60 4.80 1.06E-03 0.	0.	0.	0.	3.55E-03	1.54E-02	0.	0.	5.76E 00 5.57E 00	1.34E 01	5.82E 00	00 3.06E 01	01	
61 4.70 1.45E-03 0.	0.	0.	0.	3.59E-03	1.41E-02	0.	0.	5.81E 00 5.93E 00	1.39E 01	5.98E 00	00 3.17E 01	01	
62 4.60 2.03E-03 0.	0.	0.	0.	3.71E-03	1.28E-02	0.	0.	5.86E 00 6.33E 00	1.45E 01	6.14E 00	00 3.29E 01	01	
63 4.50 2.15E-03 0.	0.	5.54E-03 0.	0.	3.44E-03	9.64E-03	0.	0.	5.90E 00 6.77E 00	1.53E 01	6.31E 00	00 3.43E 01	01	
64 4.40 2.33E-03 0.	0.	1.61E-02 0.	0.	3.47E-03	6.57E-03	0.	0.	5.95E 00 7.25E 00	1.61E 01	6.48E 00	00 3.58E 01	01	
65 4.30 2.23E-03 0.	0.	5.53E-02 0.	0.	3.35E-03	4.18E-03	0.	0.	6.00E 00 7.77E 00	1.69E 01	6.66E 00	00 3.74E 01	01	
66 4.20 2.10E-03 0.	0.	1.70E-01 0.	0.	3.54E-03	2.87E-03	0.	0.	6.04E 00 8.34E 00	1.78E 01	6.85E 00	00 3.92E 01	01	
67 4.10 1.98E-03 0.	0.	7.90E-02 0.	0.	3.50E-03	8.11E-04	0.	0.	6.07E 00 8.97E 00	1.87E 01	6.82E 00	00 4.06E 01	01	
68 4.00 1.85E-03 0.	0.	2.47E-01 0.	0.	3.41E-03	6.07E-04	0.	0.	6.09E 00 9.67E 00	1.95E 01	6.85E 00	00 4.19E 01	01	
69 3.90 1.59E-03 0.	0.	1.18E-01 1.13E-02	0.	3.19E-03	2.25E-04	0.	0.	6.07E 00 1.04E 01	1.94E 01	6.46E 00	00 3.95E 01	01	
70 3.80 1.75E-03 0.	0.	1.90E-01 4.41E-02	0.	3.45E-03	0.	0.	0.	6.04E 00 1.13E 01	1.96E 01	6.61E 00	00 4.08E 01	01	
71 3.70 1.58E-03 0.	0.	1.93E-01 2.09E-02	0.	3.00E-03	0.	0.	0.	5.95E 00 1.23E 01	1.64E 01	6.94E 00	00 4.38E 01	01	
72 3.60 1.44E-03 0.	0.	1.42E-01 1.06E-01	0.	3.25E-03	0.	0.	0.	5.57E 00 1.33E 01	1.77E 01	6.40E 00	00 4.12E 01	01	
73 3.50 1.30E-03 0.	0.	1.85E-01 1.88E-01	0.	2.61E-03	0.	0.	0.	5.10E 00 1.45E 01	1.89E 01	6.71E 00	00 4.35E 01	01	
74 3.40 1.27E-03 0.	0.	1.22E-01 3.19E-02	0.	2.95E-03	0.	0.	0.	2.94E 00 1.59E 01	2.09E 01	5.18E 00	00 4.51E 01	01	
75 3.30 1.02E-03 0.	0.	1.25E-01 1.16E-01	0.	2.39E-03	0.	0.	0.	2.95E 00 1.74E 01	2.31E 01	5.66E 00	00 4.93E 01	01	
76 3.20 9.03E-04 0.	0.	8.34E-02 1.80E-01	0.	2.53E-03	0.	0.	0.	2.95E 00 1.91E 01	2.52E 01	6.16E 00	00 5.37E 01	01	
77 3.10 8.76E-04 0.	0.	6.54E-02 5.06E-02	0.	2.42E-03	0.	0.	0.	2.96E 00 2.10E 01	2.74E 01	6.66E 00	00 5.82E 01	01	
78 3.00 7.95E-04 0.	0.	4.06E-02 1.10E-01	0.	2.32E-03	0.	0.	0.	2.97E 00 2.32E 01	2.97E 01	7.16E 00	00 6.32E 01	01	
79 2.90 6.74E-04 0.	0.	2.57E-02 5.94E-02	0.	1.81E-03	0.	0.	0.	2.97E 00 2.58E 01	3.21E 01	7.73E 00	00 6.86E 01	01	
80 2.80 7.14E-04 0.	0.	1.24E-02 4.17E-02	0.	1.29E-03	0.	0.	0.	2.97E 00 2.87E 01	3.49E 01	8.38E 00	00 7.50E 01	01	
81 2.70 4.70E-04 0.	0.	5.85E-03 5.17E-02	0.	7.25E-04	0.	0.	0.	2.97E 00 3.20E 01	3.79E 01	9.08E 00	00 8.21E 01	01	
82 2.60 2.28E-04 0.	0.	2.80E-03 5.46E-03	0.	3.27E-04	0.	0.	0.	2.97E 00 3.60E 01	4.12E 01	9.80E 00	00 8.99E 01	01	
83 2.50 1.61E-05 0.	0.	2.91E-04 5.35E-03	0.	7.91E-05	0.	0.	0.	2.97E 00 4.05E 01	4.70E 01	6.33E 00	00 9.69E 01	01	
84 2.40 0. 1.27E-02 0.	0.	4.04E-03 8.54E-06	0.	0.	0.	0.	0.	2.97E 00 4.59E 01	5.48E 01	7.36E 00	00 1.11E 02	02	
85 2.30 0. 3.70E-02 0.	0.	0.	0.	0.	0.	0.	0.	2.95E 00 5.23E 01	4.89E 01	8.77E 00	00 1.13E 02	02	
86 2.20 0. 9.97E-02 0.	0.	0.	0.	0.	0.	0.	0.	2.94E 00 5.99E 01	5.78E 01	1.05E 01	01 1.31E 02	02	
87 2.10 0. 1.01E-01 0.	0.	0.	0.	0.	0.	0.	0.	2.93E 00 6.90E 01	6.73E 01	1.21E 01	01 1.52E 02	02	
88 2.00 0. 2.03E-01 0.	0.	0.	0.	0.	0.	0.	0.	2.83E 00 8.01E 01	7.69E 01	1.38E 01	01 1.74E 02	02	
89 1.90 0. 2.39E-01 0.	0.	0.	0.	0.	0.	0.	0.	2.73E 00 9.36E 01	8.83E 01	1.62E 01	01 2.01E 02	02	
90 1.80 0. 2.06E-01 0.	0.	0.	0.	0.	0.	0.	0.	2.61E 00 1.11E 02	1.06E 02	1.97E 01	01 2.39E 02	02	
91 1.70 0. 2.32E-01 0.	0.	0.	0.	0.	0.	0.	0.	2.46E 00 1.32E 02	1.27E 02	2.40E 01	01 2.86E 02	02	
92 1.60 0. 1.76E-01 0.	0.	0.	0.	0.	0.	0.	0.	2.08E 00 1.59E 02	1.49E 02	2.83E 01	01 3.39E 02	02	
93 1.50 0. 2.00E-01 0.	0.	0.	0.	0.	0.	0.	0.	9.45E-01 1.94E 02	1.94E 02	3.43E 01	01 4.24E 02	02	
94 1.40 0. 1.97E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	2.40E 02	2.43E 02	4.10E 01	01 5.24E 02	02
95 1.30 0. 1.51E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	3.01E 02	3.26E 02	5.41E 01	01 6.82E 02	02
96 1.20 0. 1.44E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	3.84E 02	3.65E 02	5.46E 01	01 8.04E 02	02
97 1.10 0. 1.40E-01 0.	0.	0.	0.	0.	0.	1.52E-07 0.	0.	0.	5.02E 02	4.50E 02	6.83E 01	01 1.02E 03	03
98 1.00 0. 1.28E-01 0.	0.	0.	0.	0.	0.	2.48E-06 0.	0.	0.	6.74E 02	5.47E 02	7.80E 01	01 1.30E 03	03
99 0.90 0. 1.05E-01 0.	0.	0.	0.	0.	0.	2.90E-06 0.	0.	0.	9.33E 02	6.30E 02	9.15E 01	01 1.65E 03	03
100 0.80 0. 4.94E-02 0.	0.	0.	0.	0.	0.	6.40E-05 0.	0.	0.	1.34E 03	7.25E 02	1.05E 02	02 2.17E 03	03
101 0.70 0. 1.14E-02 0.	0.	0.	0.	0.	0.	6.10E-05 0.	0.	0.	2.03E 03	7.83E 02	1.06E 02	02 2.92E 03	03
102 0.60 0. 2.53E-03 0.	0.	0.	0.	0.	0.	1.91E-04 0.	0.	0.	3.28E 03	8.76E 02	1.19E 02	02 4.28E 03	03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		21000.		DENSITY (GM/CC) 1.293E-03 (1.0E 00 NORMAL)		FREE-FREE		PHOTO-DET (IONS)		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15
1 10.70 0.	2.59E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 11.60 0.	2.38E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 12.50 0.	2.43E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 13.40 0.	2.33E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 14.30 0.	2.05E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 15.20 0.	2.14E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 16.10 0.	2.03E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 17.00 0.	1.81E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 18.90 0.	1.86E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 19.80 0.	1.77E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 20.70 0.	1.55E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 21.60 0.	1.68E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 22.50 0.	1.46E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 23.40 0.	1.40E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 24.30 0.	1.44E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 25.20 0.	1.22E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 26.10 0.	1.25E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 27.00 0.	1.16E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 27.90 0.	1.08E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 28.80 0.	1.07E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 29.70 0.	9.45E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 30.60 0.	9.79E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 31.50 0.	8.72E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 32.40 0.	8.73E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 33.30 0.	7.53E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 34.20 0.	7.66E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 35.10 0.	6.72E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 36.00 0.	6.81E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 36.90 0.	5.95E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 37.80 0.	6.22E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 38.70 0.	5.54E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 39.60 0.	5.31E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 40.50 0.	4.99E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 41.40 0.	4.53E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 42.30 0.	4.34E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 43.20 0.	3.97E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 44.10 0.	3.85E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 45.00 0.	3.58E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 45.90 0.	3.32E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 46.80 0.	3.24E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 47.70 0.	2.88E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 48.60 0.	2.61E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 49.50 0.	2.12E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 50.40 0.	1.50E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 51.30 0.	9.56E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 52.20 0.	5.41E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 53.10 0.	2.57E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 54.00 0.	6.67E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 54.90 0.	4.79E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 55.80 0.	1.21E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 56.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 21000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY	02 S-R BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	1.17E-13	0.	0.	1.69E-05	1.09E-04	0.	0.	1.31E-01	2.75E-01	8.40E-01	4.39E-01	1.69E 00
53	5.50	0.	0.	0.	2.06E-05	1.00E-04	0.	0.	1.31E-01	2.91E-01	8.59E-01	4.43E-01	1.72E 00
54	5.40	0.	0.	0.	1.93E-05	8.38E-05	0.	0.	1.32E-01	3.07E-01	8.82E-01	4.49E-01	1.77E 00
55	5.30	0.	0.	0.	1.97E-05	1.04E-04	0.	0.	1.33E-01	3.25E-01	9.06E-01	4.55E-01	1.82E 00
56	5.20	0.	0.	0.	2.14E-05	8.18E-05	0.	0.	1.34E-01	3.44E-01	9.30E-01	4.62E-01	1.87E 00
57	5.10	0.	0.	0.	2.15E-05	1.04E-04	0.	0.	1.35E-01	3.65E-01	9.58E-01	4.70E-01	1.93E 00
58	5.00	1.64E-06	0.	0.	1.98E-05	9.96E-05	0.	0.	1.36E-01	3.88E-01	9.88E-01	4.77E-01	1.99E 00
59	4.90	4.05E-06	0.	0.	2.22E-05	1.10E-04	0.	0.	1.37E-01	4.13E-01	1.02E 00	4.86E-01	2.06E 00
60	4.80	7.7E-06	0.	0.	2.39E-05	1.04E-04	0.	0.	1.38E-01	4.39E-01	1.06E 00	4.96E-01	2.14E 00
61	4.70	1.05E-05	0.	0.	2.42E-05	9.49E-05	0.	0.	1.39E-01	4.68E-01	1.10E 00	5.09E-01	2.22E 00
62	4.60	1.47E-05	0.	0.	2.50E-05	8.60E-05	0.	0.	1.42E-01	5.00E-01	1.15E 00	5.23E-01	2.31E 00
63	4.50	1.56E-05	0.	0.	2.32E-05	6.49E-05	0.	0.	1.42E-01	5.34E-01	1.21E 00	5.37E-01	2.42E 00
64	4.40	1.69E-05	0.	0.	2.34E-05	4.43E-05	0.	0.	1.43E-01	5.72E-01	1.27E 00	5.52E-01	2.54E 00
65	4.30	1.62E-05	0.	0.	2.26E-05	2.81E-05	0.	0.	1.44E-01	6.13E-01	1.34E 00	5.67E-01	2.66E 00
66	4.20	1.52E-05	0.	0.	2.38E-05	1.93E-05	0.	0.	1.45E-01	6.58E-01	1.41E 00	5.83E-01	2.80E 00
67	4.10	1.44E-05	0.	0.	2.36E-05	5.46E-06	0.	0.	1.46E-01	7.08E-01	1.48E 00	5.81E-01	2.91E 00
68	4.00	1.34E-05	0.	0.	2.30E-05	4.09E-06	0.	0.	1.46E-01	7.63E-01	1.55E 00	2.85E-01	2.74E 00
69	3.90	1.15E-05	0.	0.	2.37E-04	2.50E-04	0.	0.	1.46E-01	8.24E-01	1.53E 00	2.95E-01	2.80E 00
70	3.80	1.27E-05	0.	0.	1.19E-03	9.78E-04	0.	0.	1.45E-01	8.91E-01	1.55E 00	3.07E-01	2.89E 00
71	3.70	1.15E-05	0.	0.	1.21E-03	4.64E-04	0.	0.	1.43E-01	9.67E-01	1.30E 00	3.35E-01	2.75E 00
72	3.60	1.05E-05	0.	0.	8.92E-04	2.36E-03	0.	0.	1.34E-01	1.05E 00	1.40E 00	3.66E-01	2.96E 00
73	3.50	9.90E-06	0.	0.	1.16E-03	4.18E-03	0.	0.	1.22E-01	1.15E 00	1.49E 00	4.01E-01	3.17E 00
74	3.40	9.20E-06	0.	0.	7.63E-04	7.07E-04	0.	0.	7.07E-02	1.25E 00	1.66E 00	4.42E-01	3.42E 00
75	3.30	7.42E-06	0.	0.	7.80E-04	2.58E-04	0.	0.	7.08E-02	1.37E 00	1.83E 00	4.82E-01	3.75E 00
76	3.20	6.55E-06	0.	0.	5.22E-04	4.00E-03	0.	0.	7.09E-02	1.51E 00	2.00E 00	5.25E-01	4.10E 00
77	3.10	6.36E-06	0.	0.	4.09E-04	1.12E-03	0.	0.	7.11E-02	1.66E 00	2.17E 00	5.67E-01	4.47E 00
78	3.00	5.77E-06	0.	0.	2.54E-04	2.44E-03	0.	0.	7.12E-02	1.83E 00	2.35E 00	6.10E-01	4.87E 00
79	2.90	4.93E-06	0.	0.	1.61E-04	1.32E-03	0.	0.	7.14E-02	2.03E 00	2.54E 00	6.59E-01	5.30E 00
80	2.80	5.18E-06	0.	0.	7.77E-05	9.26E-04	0.	0.	7.15E-02	2.26E 00	2.76E 00	7.14E-01	5.81E 00
81	2.70	3.41E-06	0.	0.	3.66E-05	1.15E-03	0.	0.	7.15E-02	2.53E 00	3.00E 00	7.74E-01	6.38E 00
82	2.60	1.65E-06	0.	0.	1.75E-05	1.21E-04	0.	0.	7.15E-02	2.84E 00	3.26E 00	8.35E-01	7.00E 00
83	2.50	1.17E-07	0.	0.	1.82E-06	1.19E-04	0.	0.	7.15E-02	3.20E 00	3.72E 00	5.39E-01	7.53E 00
84	2.40	0.	0.	0.	8.96E-05	5.76E-08	0.	0.	7.15E-02	3.63E 00	4.33E 00	6.27E-01	8.66E 00
85	2.30	0.	0.	0.	0.	0.	0.	0.	7.09E-02	4.13E 00	4.87E 00	7.47E-01	8.82E 00
86	2.20	0.	0.	0.	0.	0.	0.	0.	7.06E-02	4.73E 00	5.58E 00	8.90E-01	1.03E 01
87	2.10	0.	0.	0.	0.	0.	0.	0.	7.03E-02	5.45E 00	6.33E 00	1.03E 00	1.19E 01
88	2.00	0.	0.	0.	0.	0.	0.	0.	6.81E-02	6.32E 00	6.08E 00	1.18E 00	1.37E 01
89	1.90	0.	0.	0.	0.	0.	0.	0.	6.55E-02	7.39E 00	6.98E 00	1.38E 00	1.58E 01
90	1.80	0.	0.	0.	0.	0.	0.	0.	6.26E-02	8.73E 00	8.38E 00	1.68E 00	1.89E 01
91	1.70	0.	0.	0.	0.	0.	0.	0.	5.90E-02	1.04E 01	1.01E 01	2.04E 00	2.26E 01
92	1.60	0.	0.	0.	0.	0.	0.	0.	4.99E-02	1.26E 01	1.18E 01	2.41E 00	2.68E 01
93	1.50	0.	0.	0.	0.	0.	0.	0.	2.27E-02	1.53E 01	1.54E 01	2.92E 00	3.37E 01
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	1.89E 01	1.92E 01	3.50E 00	4.17E 01
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	2.37E 01	2.58E 01	4.61E 00	5.42E 01
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	3.03E 01	2.89E 01	4.65E 00	6.38E 01
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	3.96E 01	3.56E 01	5.82E 00	8.10E 01
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	5.32E 01	4.32E 01	6.64E 00	1.03E 02
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	7.36E 01	4.98E 01	7.79E 00	1.31E 02
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	1.06E 02	5.74E 01	8.94E 00	1.72E 02
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	1.60E 02	6.19E 01	9.03E 00	2.31E 02
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	2.59E 02	6.93E 01	1.01E 01	3.38E 02

### ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 21000.			DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)			TOTAL AIR		
PHOTON O2 S-R ENERGY BANDS E.V.	U2 S-R CONT.	42 H-H NO. 1	NO BETA	NO GAMMA	NO 2	U- PHOTO-DET (IONS)	FREE-FREE N P.E.	O P.E.
1 10.70 0.	0.	6.11E-06	0.	0.	0.	1.55E-03	1.93E-03	1.16E 00
2 10.60 0.	0.	5.67E-06	0.	0.	0.	1.55E-03	1.98E-03	2.56E-02
3 10.50 0.	0.	5.72E-06	0.	0.	0.	1.56E-03	2.04E-03	2.55E-02
4 10.40 0.	0.	5.49E-06	0.	0.	0.	1.56E-03	2.10E-03	2.54E-02
5 10.30 0.	0.	4.85E-06	0.	0.	0.	1.56E-03	2.16E-03	2.52E-02
6 10.20 0.	0.	5.05E-06	0.	0.	0.	1.56E-03	2.23E-03	2.52E-02
7 10.10 0.	0.	4.79E-06	0.	0.	0.	1.57E-03	2.29E-03	2.51E-02
8 10.00 0.	0.	4.27E-06	0.	0.	0.	1.57E-03	2.36E-03	2.50E-02
9 9.90 0.	0.	4.40E-06	0.	0.	0.	1.57E-03	2.44E-03	2.49E-02
10 9.80 0.	0.	4.18E-06	0.	0.	0.	1.57E-03	2.51E-03	2.48E-02
11 9.70 0.	0.	3.66E-06	0.	0.	0.	1.57E-03	2.59E-03	2.47E-02
12 9.60 0.	0.	3.97E-06	0.	0.	0.	1.58E-03	2.67E-03	2.46E-02
13 9.50 0.	0.	3.45E-06	0.	0.	0.	1.58E-03	2.76E-03	2.45E-02
14 9.40 0.	0.	3.30E-06	0.	0.	0.	1.58E-03	2.85E-03	2.43E-02
15 9.30 0.	0.	3.40E-06	0.	0.	0.	1.59E-03	2.94E-03	2.42E-02
16 9.20 0.	0.	2.87E-06	0.	0.	0.	1.60E-03	3.04E-03	2.42E-02
17 9.10 0.	0.	2.96E-06	0.	0.	0.	1.60E-03	3.14E-03	2.41E-02
18 9.00 0.	0.	2.73E-06	0.	0.	0.	1.61E-03	3.25E-03	2.40E-02
19 8.90 0.	0.	2.56E-06	0.	0.	0.	1.62E-03	3.36E-03	2.39E-02
20 8.80 0.	0.	2.53E-06	0.	0.	0.	1.62E-03	3.48E-03	2.38E-02
21 8.70 0.	0.	2.23E-06	0.	0.	0.	1.63E-03	3.60E-03	2.37E-02
22 8.60 0.	0.	2.31E-06	0.	0.	0.	1.63E-03	3.73E-03	2.36E-02
23 8.50 0.	0.	2.06E-06	0.	0.	0.	1.64E-03	3.87E-03	2.35E-02
24 8.40 0.	0.	2.06E-06	0.	0.	0.	1.65E-03	4.01E-03	2.34E-02
25 8.30 0.	0.	1.70E-06	0.	0.	0.	1.66E-03	4.16E-03	2.33E-02
26 8.20 0.	0.	1.81E-06	0.	0.	0.	1.67E-03	4.31E-03	2.32E-02
27 8.10 0.	0.	1.59E-06	0.	0.	0.	1.67E-03	4.48E-03	2.31E-02
28 8.00 0.	0.	1.61E-06	0.	0.	0.	1.68E-03	4.65E-03	2.31E-02
29 7.90 0.	0.	1.40E-06	0.	0.	0.	1.69E-03	4.83E-03	2.31E-02
30 7.80 0.	0.	1.47E-06	0.	0.	0.	1.70E-03	5.02E-03	2.31E-02
31 7.70 0.	0.	1.31E-06	0.	0.	0.	1.71E-03	5.22E-03	2.31E-02
32 7.60 0.	0.	1.25E-06	0.	6.77E-11	0.	1.72E-03	5.43E-03	2.31E-02
33 7.50 0.	0.	1.18E-06	0.	2.16E-10	0.	1.73E-03	5.65E-03	2.32E-02
34 7.40 0.	0.	1.07E-06	0.	1.96E-09	0.	1.74E-03	5.88E-03	2.32E-02
35 7.30 0.	0.	1.02E-06	0.	7.41E-09	0.	1.74E-03	6.13E-03	2.32E-02
36 7.20 0.	0.	9.36E-07	0.	2.07E-08	0.	1.75E-03	6.39E-03	2.33E-02
37 7.10 0.	0.	9.09E-07	0.	6.53E-08	0.	1.77E-03	6.67E-03	2.33E-02
38 7.00 0.	0.	8.45E-07	0.	1.24E-07	0.	1.78E-03	6.96E-03	2.33E-02
39 6.90 0.	0.	7.84E-07	0.	1.82E-07	0.	1.80E-03	7.27E-03	2.33E-02
40 6.80 0.	0.	7.65E-07	0.	3.03E-07	0.	1.81E-03	7.60E-03	2.33E-02
41 6.70 0.	0.	6.79E-07	0.	2.93E-07	0.	1.83E-03	7.95E-03	2.34E-02
42 6.60 0.	0.	6.17E-07	0.	2.53E-07	0.	1.84E-03	8.32E-03	2.35E-02
43 6.50 0.	0.	4.99E-07	0.	3.58E-07	0.	1.85E-03	8.71E-03	2.35E-02
44 6.40 0.	0.	3.53E-07	1.11E-09	3.29E-07	0.	1.87E-03	9.13E-03	2.36E-02
45 6.30 0.	0.	2.26E-07	5.30E-09	2.48E-07	0.	1.88E-03	9.58E-03	2.37E-02
46 6.20 0.	0.	1.28E-07	7.63E-09	3.32E-07	0.	1.90E-03	1.00E-02	2.39E-02
47 6.10 0.	0.	6.12E-08	2.20E-08	4.01E-07	0.	1.91E-03	1.06E-02	2.40E-02
48 6.00 0.	0.	1.57E-08	2.15E-08	2.04E-07	0.	1.93E-03	1.11E-02	2.42E-02
49 5.90 0.	0.	1.13E-09	3.19E-08	1.97E-07	0.	1.93E-03	1.17E-02	2.44E-02
50 5.80 0.	0.	2.86E-11	4.49E-08	1.07E-07	0.	1.90E-03	1.23E-02	2.46E-02
51 5.70 0.	0.	0.	5.34E-08	2.31E-07	0.	1.78E-03	1.30E-02	2.48E-02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2100C. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON O2 S-R ENERGY HANDS	N2 1ST POS.	N2 2ND POS.	N2 2ND POS.	N2+ 1ST NEG.	NG BETA	NO GAMMA	NO VIR-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	3.77E-16	0.	0.	4.66E-08	2.99E-07	0.	0.	1.66E-03	1.37E-02	4.11E-02	2.50E-02	8.14E-02
53	5.50	0.	0.	0.	5.69E-08	2.77E-07	0.	0.	1.67E-03	1.45E-02	4.20E-02	2.52E-02	8.33E-02
54	5.40	0.	0.	0.	5.32E-08	2.31E-07	0.	0.	1.68E-03	1.53E-02	4.31E-02	2.55E-02	8.56E-02
55	5.30	0.	0.	0.	5.45E-08	2.87E-07	0.	0.	1.69E-03	1.62E-02	4.43E-02	2.58E-02	8.80E-02
56	5.20	0.	0.	0.	5.91E-08	2.26E-07	0.	0.	1.70E-03	1.71E-02	4.53E-02	2.63E-02	9.04E-02
57	5.10	0.	0.	0.	5.93E-08	2.88E-07	0.	0.	1.71E-03	1.82E-02	4.66E-02	2.67E-02	9.32E-02
58	5.00	5.3E-09	0.	0.	5.45E-08	2.75E-07	0.	0.	1.73E-03	1.93E-02	4.81E-02	2.71E-02	9.63E-02
59	4.90	1.31E-08	0.	0.	6.12E-08	3.03E-07	0.	0.	1.74E-03	2.05E-02	4.98E-02	2.76E-02	9.97E-02
60	4.80	2.48E-08	0.	0.	6.61E-08	2.86E-07	0.	0.	1.75E-03	2.19E-02	5.17E-02	2.82E-02	1.03E-01
61	4.70	3.40E-08	0.	0.	6.67E-08	2.62E-07	0.	0.	1.77E-03	2.33E-02	5.36E-02	2.89E-02	1.08E-01
62	4.60	4.75E-08	0.	0.	6.90E-08	2.37E-07	0.	0.	1.78E-03	2.49E-02	5.59E-02	2.97E-02	1.12E-01
63	4.50	5.04E-08	0.	0.	6.40E-08	1.79E-07	0.	0.	1.80E-03	2.66E-02	5.88E-02	3.05E-02	1.18E-01
64	4.40	5.45E-08	0.	0.	6.46E-08	1.22E-07	0.	0.	1.81E-03	2.85E-02	6.18E-02	3.14E-02	1.23E-01
65	4.30	5.21E-08	0.	0.	6.23E-08	7.77E-08	0.	0.	1.83E-03	3.05E-02	6.52E-02	3.22E-02	1.30E-01
66	4.20	4.91E-08	0.	0.	6.58E-08	5.34E-08	0.	0.	1.84E-03	3.28E-02	6.85E-02	3.31E-02	1.36E-01
67	4.10	4.65E-08	0.	0.	6.51E-08	1.51E-08	0.	0.	1.85E-03	3.52E-02	7.19E-02	3.30E-02	1.42E-01
68	4.00	4.33E-08	0.	0.	6.34E-08	1.13E-08	0.	0.	1.85E-03	3.80E-02	7.53E-02	1.62E-02	1.31E-01
69	3.90	3.72E-08	0.	0.	5.94E-08	4.19E-09	0.	0.	1.85E-03	4.10E-02	7.46E-02	1.67E-02	1.34E-01
70	3.80	4.10E-08	0.	0.	2.81E-06	1.03E-05	6.42E-08	0.	1.84E-03	4.44E-02	7.54E-02	1.75E-02	1.39E-01
71	3.70	3.71E-08	0.	0.	2.85E-06	4.91E-06	5.59E-08	0.	1.81E-03	4.81E-02	6.34E-02	1.91E-02	1.32E-01
72	3.60	3.38E-08	0.	0.	2.10E-06	2.50E-05	6.04E-08	0.	1.70E-03	5.23E-02	6.84E-02	2.08E-02	1.43E-01
73	3.50	3.19E-08	0.	0.	2.73E-06	4.42E-05	4.86E-08	0.	1.55E-03	5.70E-02	7.28E-02	2.28E-02	1.54E-01
74	3.40	2.97E-08	0.	0.	1.80E-06	7.48E-06	5.48E-08	0.	8.94E-04	6.23E-02	8.08E-02	2.51E-02	1.69E-01
75	3.30	2.39E-08	0.	0.	1.84E-06	2.73E-05	4.45E-08	0.	8.97E-04	6.83E-02	8.90E-02	2.74E-02	1.86E-01
76	3.20	2.11E-08	0.	0.	1.23E-06	4.23E-05	4.70E-08	0.	8.99E-04	7.50E-02	9.72E-02	2.98E-02	2.03E-01
77	3.10	2.05E-08	0.	0.	9.66E-07	1.19E-05	4.51E-08	0.	9.01E-04	8.26E-02	1.06E-01	3.22E-02	2.22E-01
78	3.00	1.86E-08	0.	0.	5.99E-07	2.58E-05	4.32E-08	0.	9.03E-04	9.13E-02	1.14E-01	3.47E-02	2.41E-01
79	2.90	1.59E-08	0.	0.	3.80E-07	1.39E-05	3.37E-08	0.	9.05E-04	1.01E-01	1.24E-01	3.74E-02	2.63E-01
80	2.80	1.67E-08	0.	0.	1.83E-07	9.79E-06	2.40E-08	0.	9.06E-04	1.13E-01	1.34E-01	4.06E-02	2.89E-01
81	2.70	1.10E-08	0.	0.	8.63E-08	1.21E-05	1.35E-08	0.	9.06E-04	1.26E-01	1.46E-01	4.40E-02	3.17E-01
82	2.60	5.33E-09	0.	0.	4.14E-08	1.28E-06	6.08E-09	0.	9.06E-04	1.41E-01	1.58E-01	4.74E-02	3.48E-01
83	2.50	3.78E-10	0.	0.	4.30E-09	1.26E-06	1.47E-09	0.	9.06E-04	1.59E-01	1.81E-01	5.06E-02	3.72E-01
84	2.40	0.	1.88E-07	0.	9.48E-07	1.59E-10	0.	0.	9.06E-04	1.80E-01	2.11E-01	5.36E-02	4.28E-01
85	2.30	0.	5.46E-07	0.	0.	0.	0.	0.	8.99E-04	2.06E-01	1.88E-01	5.25E-02	4.37E-01
86	2.20	0.	1.47E-06	0.	0.	0.	0.	0.	8.95E-04	2.35E-01	2.23E-01	5.06E-02	5.09E-01
87	2.10	0.	1.49E-06	0.	0.	0.	0.	0.	8.92E-04	2.71E-01	2.59E-01	5.87E-02	5.90E-01
88	2.00	0.	2.99E-06	0.	0.	0.	0.	0.	8.63E-04	3.15E-01	2.96E-01	6.70E-02	6.78E-01
89	1.90	0.	3.53E-06	0.	0.	0.	0.	0.	8.30E-04	3.68E-01	3.40E-01	7.83E-02	7.86E-01
90	1.80	0.	3.04E-06	0.	0.	0.	0.	0.	7.94E-04	4.35E-01	4.07E-01	9.54E-02	9.38E-01
91	1.70	0.	3.43E-06	0.	0.	0.	0.	0.	7.48E-04	5.19E-01	4.90E-01	1.16E-01	1.13E-00
92	1.60	0.	2.60E-06	0.	0.	0.	0.	0.	6.33E-04	6.26E-01	5.73E-01	1.37E-01	1.34E-00
93	1.50	0.	2.95E-06	0.	0.	0.	0.	0.	2.80E-04	7.64E-01	7.46E-01	1.66E-01	1.68E-00
94	1.40	0.	2.90E-06	0.	0.	0.	0.	0.	0.	9.43E-01	9.34E-01	1.99E-01	2.08E-00
95	1.30	0.	2.22E-06	0.	0.	0.	0.	0.	0.	1.18E-00	1.26E-00	2.62E-01	2.70E-00
96	1.20	0.	2.12E-06	0.	0.	0.	0.	0.	0.	1.51E-00	1.40E-00	2.64E-01	3.18E-00
97	1.10	0.	2.06E-06	0.	0.	0.	2.82E-12	0.	0.	1.97E-00	1.73E-00	3.31E-01	4.03E-00
98	1.00	0.	1.89E-06	0.	0.	0.	4.61E-11	0.	0.	2.65E-00	2.10E-00	3.77E-01	5.12E-00
99	0.90	0.	1.55E-06	0.	0.	0.	5.39E-11	0.	0.	3.66E-00	2.42E-00	4.43E-01	6.53E-00
100	0.80	0.	7.29E-07	0.	0.	0.	1.19E-09	0.	0.	5.27E-00	2.79E-00	5.08E-01	8.57E-00
101	0.70	0.	1.68E-07	0.	0.	0.	1.13E-09	0.	0.	7.98E-00	3.01E-00	5.13E-01	1.15E-01
102	0.60	0.	3.74E-08	0.	0.	0.	3.56E-09	0.	0.	1.29E-01	3.36E-00	5.74E-01	1.68E-01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 21000.				DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)				U- PHOTO-DET (IONS)				FREE-FREE N				P.E.				TOTAL AIR			
PHOTON U2 S-R ENERGY BANDS E.V.		O2 S-K CONT.		N2 B-H NO. 1		NO BETA		NO GAMMA		NO 2		U- PHOTO-DET (IONS)		FREE-FREE N		P.E.		P.E.		TOTAL AIR			
1	10.70 0.	0.	0.	2.51E-09	0.	0.	0.	0.	0.	0.	0.	5.21E-06	4.02E-05	2.36E-02	5.95E-04	5.95E-04	2.42E-02	5.95E-04	2.42E-02				
2	10.60 0.	0.	0.	2.31E-09	0.	0.	0.	0.	0.	0.	0.	5.22E-06	4.13E-05	1.61E-03	5.92E-04	5.92E-04	2.25E-03	5.92E-04	2.25E-03				
3	10.50 0.	0.	0.	2.35E-09	0.	0.	0.	0.	0.	0.	0.	5.22E-06	4.25E-05	1.62E-03	5.89E-04	5.89E-04	2.26E-03	5.89E-04	2.26E-03				
4	10.40 0.	0.	0.	2.26E-09	0.	0.	0.	0.	0.	0.	0.	5.23E-06	4.38E-05	1.63E-03	5.87E-04	5.87E-04	2.26E-03	5.87E-04	2.26E-03				
5	10.30 0.	0.	0.	1.99E-09	0.	0.	0.	0.	0.	0.	0.	5.24E-06	4.51E-05	1.63E-03	5.84E-04	5.84E-04	2.27E-03	5.84E-04	2.27E-03				
6	10.20 0.	0.	0.	2.08E-09	0.	0.	0.	0.	0.	0.	0.	5.24E-06	4.64E-05	1.64E-03	5.82E-04	5.82E-04	2.27E-03	5.82E-04	2.27E-03				
7	10.10 0.	0.	0.	1.97E-09	0.	0.	0.	0.	0.	0.	0.	5.25E-06	4.79E-05	1.63E-03	5.79E-04	5.79E-04	2.27E-03	5.79E-04	2.27E-03				
8	10.00 0.	0.	0.	1.76E-09	0.	0.	0.	0.	0.	0.	0.	5.26E-06	4.93E-05	1.57E-03	5.76E-04	5.76E-04	2.20E-03	5.76E-04	2.20E-03				
9	9.90 0.	0.	0.	1.81E-09	0.	0.	0.	0.	0.	0.	0.	5.27E-06	5.08E-05	1.58E-03	5.74E-04	5.74E-04	2.21E-03	5.74E-04	2.21E-03				
10	9.80 0.	0.	0.	1.72E-09	0.	0.	0.	0.	0.	0.	0.	5.28E-06	5.24E-05	1.58E-03	5.71E-04	5.71E-04	2.21E-03	5.71E-04	2.21E-03				
11	9.70 0.	0.	0.	1.51E-09	0.	0.	0.	0.	0.	0.	0.	5.29E-06	5.41E-05	1.58E-03	5.69E-04	5.69E-04	2.21E-03	5.69E-04	2.21E-03				
12	9.60 0.	0.	0.	1.63E-09	0.	0.	0.	0.	0.	0.	0.	5.30E-06	5.58E-05	1.59E-03	5.66E-04	5.66E-04	2.22E-03	5.66E-04	2.22E-03				
13	9.50 0.	0.	0.	1.42E-09	0.	0.	0.	0.	0.	0.	0.	5.31E-06	5.76E-05	1.59E-03	5.63E-04	5.63E-04	2.22E-03	5.63E-04	2.22E-03				
14	9.40 0.	0.	0.	1.36E-09	0.	0.	0.	0.	0.	0.	0.	5.32E-06	5.95E-05	1.60E-03	5.61E-04	5.61E-04	2.22E-03	5.61E-04	2.22E-03				
15	9.30 0.	0.	0.	1.40E-09	0.	0.	0.	0.	0.	0.	0.	5.34E-06	6.14E-05	1.60E-03	5.58E-04	5.58E-04	2.23E-03	5.58E-04	2.23E-03				
16	9.20 0.	0.	0.	1.18E-09	0.	0.	0.	0.	0.	0.	0.	5.36E-06	6.35E-05	1.61E-03	5.56E-04	5.56E-04	2.23E-03	5.56E-04	2.23E-03				
17	9.10 0.	0.	0.	1.22E-09	0.	0.	0.	0.	0.	0.	0.	5.38E-06	6.56E-05	1.61E-03	5.53E-04	5.53E-04	1.28E-03	5.53E-04	1.28E-03				
18	9.00 0.	0.	0.	1.12E-09	0.	0.	0.	0.	0.	0.	0.	5.40E-06	6.79E-05	1.59E-04	5.51E-04	5.51E-04	1.28E-03	5.51E-04	1.28E-03				
19	8.90 0.	0.	0.	1.05E-09	0.	0.	0.	0.	0.	0.	0.	5.42E-06	7.02E-05	1.57E-04	5.49E-04	5.49E-04	1.28E-03	5.49E-04	1.28E-03				
20	8.80 0.	0.	0.	1.04E-09	0.	0.	0.	0.	0.	0.	0.	5.44E-06	7.26E-05	1.59E-04	5.46E-04	5.46E-04	1.28E-03	5.46E-04	1.28E-03				
21	8.70 0.	0.	0.	9.17E-10	0.	0.	0.	0.	0.	0.	0.	5.46E-06	7.52E-05	1.61E-04	5.44E-04	5.44E-04	1.29E-03	5.44E-04	1.29E-03				
22	8.60 0.	0.	0.	9.50E-10	0.	0.	0.	0.	0.	0.	0.	5.48E-06	7.79E-05	1.62E-04	5.42E-04	5.42E-04	1.29E-03	5.42E-04	1.29E-03				
23	8.50 0.	0.	0.	8.46E-10	0.	0.	0.	0.	0.	0.	0.	5.50E-06	8.07E-05	1.65E-04	5.39E-04	5.39E-04	1.29E-03	5.39E-04	1.29E-03				
24	8.40 0.	0.	0.	8.47E-10	0.	0.	0.	0.	0.	0.	0.	5.53E-06	8.37E-05	1.68E-04	5.37E-04	5.37E-04	1.29E-03	5.37E-04	1.29E-03				
25	8.30 0.	0.	0.	7.31E-10	0.	0.	0.	0.	0.	0.	0.	5.56E-06	8.67E-05	1.71E-04	5.36E-04	5.36E-04	1.30E-03	5.36E-04	1.30E-03				
26	8.20 0.	0.	0.	7.44E-10	0.	0.	0.	0.	0.	0.	0.	5.59E-06	9.00E-05	1.75E-04	5.37E-04	5.37E-04	1.31E-03	5.37E-04	1.31E-03				
27	8.10 0.	0.	0.	6.52E-10	0.	0.	0.	0.	0.	0.	0.	5.61E-06	9.34E-05	1.78E-04	5.37E-04	5.37E-04	1.31E-03	5.37E-04	1.31E-03				
28	8.00 0.	0.	0.	6.61E-10	0.	0.	0.	0.	0.	0.	0.	5.64E-06	9.70E-05	1.83E-04	5.37E-04	5.37E-04	1.32E-03	5.37E-04	1.32E-03				
29	7.90 0.	0.	0.	5.77E-10	0.	0.	0.	0.	0.	0.	0.	5.67E-06	1.01E-04	1.89E-04	5.38E-04	5.38E-04	1.33E-03	5.38E-04	1.33E-03				
30	7.80 0.	0.	0.	6.03E-10	0.	0.	0.	0.	0.	0.	0.	5.70E-06	1.05E-04	1.94E-04	5.38E-04	5.38E-04	1.34E-03	5.38E-04	1.34E-03				
31	7.70 0.	0.	0.	5.37E-10	0.	0.	0.	0.	0.	0.	0.	5.73E-06	1.09E-04	2.00E-04	5.39E-04	5.39E-04	1.35E-03	5.39E-04	1.35E-03				
32	7.60 0.	0.	0.	5.16E-10	0.	0.	0.	3.19E-14	0.	0.	0.	5.76E-06	1.13E-04	2.06E-04	5.39E-04	5.39E-04	1.36E-03	5.39E-04	1.36E-03				
33	7.50 0.	0.	0.	4.84E-10	0.	0.	0.	1.02E-13	0.	0.	0.	5.79E-06	1.18E-04	2.09E-04	5.40E-04	5.40E-04	1.36E-03	5.40E-04	1.36E-03				
34	7.40 0.	0.	0.	4.40E-10	0.	0.	0.	9.22E-13	0.	0.	0.	5.82E-06	1.23E-04	2.05E-04	5.40E-04	5.40E-04	1.37E-03	5.40E-04	1.37E-03				
35	7.30 0.	0.	0.	4.21E-10	0.	0.	0.	3.49E-12	0.	0.	0.	5.85E-06	1.28E-04	2.11E-04	5.40E-04	5.40E-04	1.38E-03	5.40E-04	1.38E-03				
36	7.20 0.	0.	0.	3.85E-10	0.	0.	0.	9.77E-12	0.	0.	0.	5.88E-06	1.33E-04	2.17E-04	5.41E-04	5.41E-04	1.40E-03	5.41E-04	1.40E-03				
37	7.10 0.	0.	0.	3.74E-10	0.	0.	0.	3.08E-11	0.	0.	0.	5.93E-06	1.39E-04	2.23E-04	5.41E-04	5.41E-04	1.41E-03	5.41E-04	1.41E-03				
38	7.00 1.41E-13	0.	0.	3.47E-10	0.	0.	0.	5.86E-11	0.	0.	0.	5.98E-06	1.45E-04	2.29E-04	5.42E-04	5.42E-04	1.42E-03	5.42E-04	1.42E-03				
39	6.90 2.78E-13	0.	0.	3.23E-10	0.	0.	0.	8.60E-11	0.	0.	0.	6.03E-06	1.52E-04	2.36E-04	5.42E-04	5.42E-04	1.44E-03	5.42E-04	1.44E-03				
40	6.80 2.4E-13	0.	0.	3.15E-10	0.	0.	0.	1.43E-10	0.	0.	0.	6.08E-06	1.59E-04	2.42E-04	5.43E-04	5.43E-04	1.45E-03	5.43E-04	1.45E-03				
41	6.70 1.77E-13	0.	0.	2.79E-10	0.	0.	0.	1.38E-10	0.	0.	0.	6.13E-06	1.66E-04	2.48E-04	5.44E-04	5.44E-04	1.46E-03	5.44E-04	1.46E-03				
42	6.60 1.09E-13	0.	0.	2.54E-10	0.	0.	0.	1.19E-10	0.	0.	0.	6.17E-06	1.74E-04	2.57E-04	5.46E-04	5.46E-04	1.48E-03	5.46E-04	1.48E-03				
43	6.50 6.34E-14	0.	0.	2.05E-10	0.	0.	0.	1.69E-10	0.	0.	0.	6.22E-06	1.82E-04	2.63E-04	5.47E-04	5.47E-04	1.50E-03	5.47E-04	1.50E-03				
44	6.40 3.67E-14	0.	0.	1.45E-10	0.	0.	0.	1.55E-10	0.	0.	0.	6.27E-06	1.90E-04	2.72E-04	5.48E-04	5.48E-04	1.52E-03	5.48E-04	1.52E-03				
45	6.30 2.1E-14	0.	0.	9.28E-11	0.	0.	0.	1.17E-10	0.	0.	0.	6.32E-06	2.00E-04	2.82E-04	5.51E-04	5.51E-04	1.54E-03	5.51E-04	1.54E-03				
46	6.20 9.83E-15	0.	0.	5.25E-11	0.	0.	0.	1.57E-10	0.	0.	0.	6.37E-06	2.10E-04	2.91E-04	5.55E-04	5.55E-04	1.56E-03	5.55E-04	1.56E-03				
47	6.10 4.57E-15	0.	0.	2.52E-11	0.	0.	0.	1.89E-10	0.	0.	0.	6.41E-06	2.20E-04	3.02E-04	5.59E-04	5.59E-04	1.59E-03	5.59E-04	1.59E-03				
48	6.00 1.93E-15	0.	0.	6.47E-12	0.	0.	0.	9.62E-11	0.	0.	0.	6.46E-06	2.32E-04	3.13E-04	5.64E-04	5.64E-04	1.64E-03	5.64E-04	1.64E-03				
49	5.90 4.77E-16	0.	0.	4.65E-13	0.	0.	0.	1.50E-11	0.	0.	0.	6.46E-06	2.44E-04	3.27E-04	5.68E-04	5.68E-04	1.64E-03	5.68E-04	1.64E-03				
50	5.80 6.10E-17	0.	0.	1.18E-14	0.	0.	0.	2.12E-11	0.	0.	0.	6.37E-06	2.57E-04	3.40E-04	5.72E-04	5.72E-04	1.68E-03	5.72E-04	1.68E-03				
51	5.70 4.49E-18	0.	0.	0.	0.	0.	0.	2.52E-11	0.	0.	0.	5.98E-06	2.71E-04	3.53E-04	5.76E-04	5.76E-04	1.71E-03	5.76E-04	1.71E-03				



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2100. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON 02 S-R ENERGY RANOS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N	O P.E.	TOTAL AIR	
52	5.60	2.04E-19	0.	2.19E-11	1.41E-10	0.	0.	5.56E-06	2.86E-04	8.69E-04	5.81E-04	1.74E-03
53	5.50	0.	0.	2.68E-11	1.31E-10	0.	0.	5.59E-06	3.02E-04	8.89E-04	5.86E-04	1.78E-03
54	5.40	0.	0.	2.51E-11	1.09E-10	0.	0.	5.62E-06	3.19E-04	9.14E-04	5.93E-04	1.83E-03
55	5.30	0.	0.	2.57E-11	1.35E-10	0.	0.	5.66E-06	3.38E-04	9.39E-04	6.01E-04	1.88E-03
56	5.20	0.	0.	2.79E-11	1.06E-10	0.	0.	5.69E-06	3.58E-04	9.31E-04	6.11E-04	1.91E-03
57	5.10	0.	0.	2.79E-11	1.35E-10	0.	0.	5.74E-06	3.80E-04	9.59E-04	6.20E-04	1.96E-03
58	5.00	2.86E-12	0.	2.57E-11	1.79E-10	0.	0.	5.79E-06	4.03E-04	9.90E-04	6.30E-04	2.03E-03
59	4.90	7.05E-12	0.	2.88E-11	1.43E-10	0.	0.	5.84E-06	4.29E-04	1.02E-03	6.41E-04	2.10E-03
60	4.80	1.34E-11	0.	3.11E-11	1.35E-10	0.	0.	5.88E-06	4.56E-04	1.06E-03	6.55E-04	2.18E-03
61	4.70	1.84E-11	0.	3.14E-11	1.23E-10	0.	0.	5.93E-06	4.86E-04	1.10E-03	6.73E-04	2.27E-03
62	4.60	2.54E-11	0.	3.25E-11	1.12E-10	0.	0.	5.98E-06	5.19E-04	1.15E-03	6.91E-04	2.37E-03
63	4.50	2.72E-11	0.	3.01E-11	8.44E-11	0.	0.	6.03E-06	5.55E-04	1.21E-03	7.10E-04	2.48E-03
64	4.40	2.94E-11	0.	3.04E-11	5.76E-11	0.	0.	6.08E-06	5.94E-04	1.27E-03	7.29E-04	2.60E-03
65	4.30	2.82E-11	0.	2.94E-11	3.66E-11	0.	0.	6.13E-06	6.37E-04	1.34E-03	7.49E-04	2.74E-03
66	4.20	2.65E-11	0.	3.10E-11	2.52E-11	0.	0.	6.17E-06	6.84E-04	1.41E-03	7.70E-04	2.87E-03
67	4.10	2.51E-11	0.	3.07E-11	7.10E-12	0.	0.	6.20E-06	7.36E-04	1.48E-03	7.67E-04	2.99E-03
68	4.00	2.34E-11	0.	2.99E-11	5.32E-12	0.	0.	6.22E-06	7.93E-04	1.55E-03	7.77E-04	3.07E-03
69	3.90	2.01E-11	0.	2.80E-11	1.97E-12	0.	0.	6.20E-06	8.56E-04	1.54E-03	8.89E-04	2.79E-03
70	3.80	2.22E-11	0.	1.15E-09	0.	0.	0.	6.17E-06	9.26E-04	1.56E-03	4.06E-04	2.90E-03
71	3.70	2.00E-11	0.	1.17E-09	2.63E-11	0.	0.	6.08E-06	1.00E-03	1.32E-03	4.43E-04	2.77E-03
72	3.60	1.82E-11	0.	8.65E-10	2.85E-11	0.	0.	5.69E-06	1.09E-03	1.42E-03	4.84E-04	3.00E-03
73	3.50	1.72E-11	0.	1.12E-09	2.29E-11	0.	0.	5.21E-06	1.19E-03	1.51E-03	5.31E-04	3.24E-03
74	3.40	1.60E-11	0.	7.40E-10	2.13E-08	0.	0.	3.00E-06	1.30E-03	1.67E-03	5.84E-04	3.56E-03
75	3.30	1.29E-11	0.	7.56E-10	2.10E-11	0.	0.	3.01E-06	1.42E-03	1.84E-03	6.37E-04	3.91E-03
76	3.20	1.14E-11	0.	5.07E-10	2.22E-11	0.	0.	3.01E-06	1.56E-03	2.01E-03	6.94E-04	4.27E-03
77	3.10	1.11E-11	0.	3.97E-10	3.38E-08	0.	0.	3.02E-06	1.72E-03	2.19E-03	7.50E-04	4.67E-03
78	3.00	1.01E-11	0.	2.46E-10	7.35E-08	0.	0.	3.03E-06	1.90E-03	2.36E-03	8.07E-04	5.08E-03
79	2.90	8.59E-12	0.	1.56E-10	3.97E-08	0.	0.	3.03E-06	2.11E-03	2.56E-03	8.71E-04	5.54E-03
80	2.80	9.03E-12	0.	7.54E-11	2.79E-08	0.	0.	3.04E-06	2.35E-03	2.78E-03	9.43E-04	6.08E-03
81	2.70	5.94E-12	0.	3.55E-11	3.46E-08	0.	0.	3.04E-06	2.63E-03	3.02E-03	1.02E-03	6.67E-03
82	2.60	2.88E-12	0.	1.70E-11	3.65E-09	0.	0.	3.04E-06	2.95E-03	3.24E-03	1.10E-03	7.29E-03
83	2.50	2.04E-13	0.	1.77E-12	3.58E-09	0.	0.	3.04E-06	3.32E-03	3.69E-03	7.13E-04	7.73E-03
84	2.40	0.	7.74E-11	0.	0.	0.	0.	3.04E-06	3.77E-03	4.30E-03	8.29E-04	8.90E-03
85	2.30	0.	2.25E-10	0.	0.	0.	0.	3.01E-06	4.29E-03	4.85E-03	9.87E-04	9.13E-03
86	2.20	0.	6.06E-10	0.	0.	0.	0.	3.00E-06	4.91E-03	5.55E-03	1.18E-03	1.06E-02
87	2.10	0.	6.13E-10	0.	0.	0.	0.	2.99E-06	5.66E-03	6.29E-03	1.37E-03	1.23E-02
88	2.00	0.	1.23E-09	0.	0.	0.	0.	2.89E-06	6.56E-03	7.04E-03	1.56E-03	1.42E-02
89	1.90	0.	1.45E-09	0.	0.	0.	0.	2.78E-06	7.67E-03	8.93E-03	1.82E-03	1.64E-02
90	1.80	0.	1.25E-09	0.	0.	0.	0.	2.66E-06	9.07E-03	1.03E-03	2.22E-03	1.96E-02
91	1.70	0.	1.41E-09	0.	0.	0.	0.	2.51E-06	1.08E-02	9.98E-03	2.70E-03	2.35E-02
92	1.60	0.	1.07E-09	0.	0.	0.	0.	2.12E-06	1.31E-02	1.17E-02	3.18E-03	2.79E-02
93	1.50	0.	1.21E-09	0.	0.	0.	0.	9.65E-07	1.59E-02	1.52E-02	3.86E-03	3.50E-02
94	1.40	0.	1.19E-09	0.	0.	0.	0.	0.	1.97E-02	1.90E-02	4.61E-03	4.33E-02
95	1.30	0.	9.15E-10	0.	0.	0.	0.	0.	2.47E-02	2.55E-02	6.08E-03	5.62E-02
96	1.20	0.	8.73E-10	0.	0.	0.	0.	0.	3.15E-02	2.85E-02	6.13E-03	6.61E-02
97	1.10	0.	8.47E-10	0.	0.	1.33E-15	0.	0.	4.11E-02	3.51E-02	7.68E-03	8.39E-02
98	1.00	0.	7.79E-10	0.	0.	2.17E-14	0.	0.	5.52E-02	4.26E-02	8.76E-03	1.07E-01
99	0.90	0.	6.39E-10	0.	0.	2.54E-14	0.	0.	7.65E-02	4.91E-02	1.03E-02	1.36E-01
100	0.80	0.	3.00E-10	0.	0.	5.61E-13	0.	0.	1.10E-01	5.65E-02	1.18E-02	1.78E-01
101	0.70	0.	6.92E-11	0.	0.	5.35E-13	0.	0.	1.66E-01	6.10E-02	1.14E-02	2.39E-01
102	0.60	0.	1.54E-11	0.	0.	1.68E-12	0.	0.	2.69E-01	6.83E-02	1.33E-02	3.51E-01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON U2 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		FREE-FREE		TOTAL AIR	
E.V.	BANDS	O2 S-R	N2 B-H	NO	GAMMA	NO	PHOTO-DET (IONS)	N	P.E.
1	10.70 0.	0.	3.27E-13	0.	0.	0.	6.71E-09	4.79E-07	2.59E-05
2	10.60 0.	0.	3.01E-13	0.	0.	0.	6.71E-09	4.93E-07	2.61E-05
3	10.50 0.	0.	3.06E-13	0.	0.	0.	6.72E-09	5.07E-07	2.63E-05
4	10.40 0.	0.	2.93E-13	0.	0.	0.	6.73E-09	5.22E-07	2.65E-05
5	10.30 0.	0.	2.59E-13	0.	0.	0.	6.74E-09	5.37E-07	2.67E-05
6	10.20 0.	0.	2.70E-13	0.	0.	0.	6.75E-09	5.53E-07	2.69E-05
7	10.10 0.	0.	2.56E-13	0.	0.	0.	6.76E-09	5.70E-07	2.70E-05
8	10.00 0.	0.	2.28E-13	0.	0.	0.	6.77E-09	5.88E-07	2.71E-05
9	9.90 0.	0.	2.35E-13	0.	0.	0.	6.78E-09	6.06E-07	2.72E-05
10	9.80 0.	0.	2.23E-13	0.	0.	0.	6.79E-09	6.25E-07	2.73E-05
11	9.70 0.	0.	1.96E-13	0.	0.	0.	6.81E-09	6.44E-07	2.74E-05
12	9.60 0.	0.	2.12E-13	0.	0.	0.	6.82E-09	6.65E-07	2.75E-05
13	9.50 0.	0.	1.84E-13	0.	0.	0.	6.83E-09	6.86E-07	2.76E-05
14	9.40 0.	0.	1.77E-13	0.	0.	0.	6.85E-09	7.09E-07	2.77E-05
15	9.30 0.	0.	1.82E-13	0.	0.	0.	6.88E-09	7.32E-07	2.78E-05
16	9.20 0.	0.	1.54E-13	0.	0.	0.	6.90E-09	7.56E-07	2.79E-05
17	9.10 0.	0.	1.58E-13	0.	0.	0.	6.93E-09	7.82E-07	2.80E-05
18	9.00 0.	0.	1.46E-13	0.	0.	0.	6.95E-09	8.08E-07	2.81E-05
19	8.90 0.	0.	1.37E-13	0.	0.	0.	6.98E-09	8.36E-07	2.82E-05
20	8.80 0.	0.	1.35E-13	0.	0.	0.	7.00E-09	8.65E-07	2.83E-05
21	8.70 0.	0.	1.19E-13	0.	0.	0.	7.03E-09	8.96E-07	2.84E-05
22	8.60 0.	0.	1.23E-13	0.	0.	0.	7.05E-09	9.28E-07	2.85E-05
23	8.50 0.	0.	1.10E-13	0.	0.	0.	7.08E-09	9.61E-07	2.86E-05
24	8.40 0.	0.	1.10E-13	0.	0.	0.	7.12E-09	9.97E-07	2.87E-05
25	8.30 0.	0.	9.49E-14	0.	0.	0.	7.15E-09	1.03E-06	2.88E-05
26	8.20 0.	0.	9.66E-14	0.	0.	0.	7.19E-09	1.07E-06	2.89E-05
27	8.10 0.	0.	8.47E-14	0.	0.	0.	7.23E-09	1.11E-06	2.90E-05
28	8.00 0.	0.	8.59E-14	0.	0.	0.	7.26E-09	1.15E-06	2.91E-05
29	7.90 0.	0.	7.50E-14	0.	0.	0.	7.30E-09	1.20E-06	2.92E-05
30	7.80 0.	0.	7.84E-14	0.	0.	0.	7.34E-09	1.25E-06	2.93E-05
31	7.70 0.	0.	6.98E-14	0.	0.	0.	7.38E-09	1.30E-06	2.94E-05
32	7.60 0.	0.	6.70E-14	0.	0.	0.	7.41E-09	1.35E-06	2.95E-05
33	7.50 0.	0.	6.29E-14	0.	0.	0.	7.45E-09	1.40E-06	2.96E-05
34	7.40 0.	0.	5.71E-14	0.	0.	0.	7.49E-09	1.46E-06	2.97E-05
35	7.30 0.	0.	5.47E-14	0.	0.	0.	7.53E-09	1.52E-06	2.98E-05
36	7.20 0.	0.	5.00E-14	0.	0.	0.	7.58E-09	1.59E-06	2.99E-05
37	7.10 0.	0.	4.86E-14	0.	0.	0.	7.64E-09	1.66E-06	3.00E-05
38	7.00 0.	0.	4.51E-14	0.	0.	0.	7.70E-09	1.73E-06	3.01E-05
39	6.90 0.	0.	4.19E-14	0.	0.	0.	7.76E-09	1.81E-06	3.02E-05
40	6.80 0.	0.	4.09E-14	0.	0.	0.	7.82E-09	1.89E-06	3.03E-05
41	6.70 0.	0.	3.63E-14	0.	0.	0.	7.89E-09	1.98E-06	3.04E-05
42	6.60 0.	0.	3.29E-14	0.	0.	0.	7.95E-09	2.07E-06	3.05E-05
43	6.50 0.	0.	2.67E-14	0.	0.	0.	8.01E-09	2.16E-06	3.06E-05
44	6.40 0.	0.	1.89E-14	0.	0.	0.	8.07E-09	2.27E-06	3.07E-05
45	6.30 0.	0.	1.21E-14	0.	0.	0.	8.13E-09	2.38E-06	3.08E-05
46	6.20 0.	0.	6.82E-15	0.	0.	0.	8.20E-09	2.50E-06	3.09E-05
47	6.10 0.	0.	3.27E-15	0.	0.	0.	8.26E-09	2.62E-06	3.10E-05
48	6.00 0.	0.	8.41E-16	0.	0.	0.	8.32E-09	2.76E-06	3.11E-05
49	5.90 0.	0.	6.04E-17	0.	0.	0.	8.32E-09	2.90E-06	3.12E-05
50	5.80 0.	0.	1.53E-18	0.	0.	0.	8.20E-09	3.06E-06	3.13E-05
51	5.70 0.	0.	0.	0.	0.	0.	7.70E-09	3.22E-06	3.14E-05

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				11.0E-04 NURMAL)															
PHOTON O2 S-R		N2		N2+		BETA		GAMMA		VIB-ROT		NO		PHOTO-DET (IONS)		FREE-FREE		N		P.E.		TOTAL AIR	
ENERGY BANDS		1ST POS. 2ND POS.		1ST NEG.																			
52	5.60 2.86E-23 0.	0.	0.	0.	0.	2.98E-15	1.91E-14	0.	0.	7.16E-09	3.40E-06	1.39E-05	7.08E-06	2.44E-05									
53	5.50 0.	0.	0.	0.	0.	3.64E-15	1.77E-14	0.	0.	7.20E-09	3.59E-06	1.43E-05	7.15E-06	2.51E-05									
54	5.40 0.	0.	0.	0.	0.	3.40E-15	1.48E-14	0.	0.	7.23E-09	3.80E-06	1.48E-05	7.24E-06	2.58E-05									
55	5.30 0.	0.	0.	0.	0.	3.48E-15	1.83E-14	0.	0.	7.28E-09	4.02E-06	1.17E-05	7.34E-06	2.31E-05									
56	5.20 0.	0.	0.	0.	0.	3.78E-15	1.44E-14	0.	0.	7.33E-09	4.26E-06	1.21E-05	7.32E-06	2.36E-05									
57	5.10 0.	0.	0.	0.	0.	3.79E-15	1.84E-14	0.	0.	7.39E-09	4.52E-06	1.25E-05	7.44E-06	2.44E-05									
58	5.00 4.05E-16 0.	0.	0.	0.	0.	3.48E-15	1.76E-14	0.	0.	7.45E-09	4.80E-06	1.29E-05	7.56E-06	2.53E-05									
59	4.90 9.98E-16 0.	0.	0.	0.	0.	3.91E-15	1.94E-14	0.	0.	7.51E-09	5.10E-06	1.34E-05	7.70E-06	2.62E-05									
60	4.80 1.90E-15 0.	0.	0.	0.	0.	4.22E-15	1.83E-14	0.	0.	7.58E-09	5.43E-06	1.39E-05	7.87E-06	2.72E-05									
61	4.70 2.60E-15 0.	0.	0.	0.	0.	4.26E-15	1.67E-14	0.	0.	7.64E-09	5.79E-06	1.44E-05	8.08E-06	2.83E-05									
62	4.60 3.63E-15 0.	0.	0.	0.	0.	4.41E-15	1.52E-14	0.	0.	7.70E-09	6.18E-06	1.51E-05	8.30E-06	2.96E-05									
63	4.50 3.85E-15 0.	4.37E-15	0.	0.	0.	4.09E-15	1.14E-14	0.	0.	7.76E-09	6.61E-06	1.60E-05	8.53E-06	3.11E-05									
64	4.40 4.16E-15 0.	1.27E-14	0.	0.	0.	4.13E-15	7.80E-15	0.	0.	7.82E-09	7.07E-06	1.68E-05	8.74E-06	3.26E-05									
65	4.30 3.98E-15 0.	4.37E-14	0.	0.	0.	3.98E-15	4.96E-15	0.	0.	7.89E-09	7.58E-06	1.77E-05	8.99E-06	3.43E-05									
66	4.20 3.75E-15 0.	1.34E-13	0.	0.	0.	4.20E-15	3.41E-15	0.	0.	7.95E-09	8.14E-06	1.87E-05	9.24E-06	3.61E-05									
67	4.10 3.55E-15 0.	6.23E-14	0.	0.	0.	4.16E-15	9.63E-16	0.	0.	7.98E-09	8.76E-06	1.97E-05	9.22E-06	3.77E-05									
68	4.00 3.31E-15 0.	1.95E-13	0.	0.	0.	4.05E-15	7.21E-16	0.	0.	8.01E-09	9.44E-06	2.07E-05	9.58E-06	3.47E-05									
69	3.90 2.85E-15 0.	9.28E-14	9.03E-12	3.79E-15	0.	3.79E-15	2.67E-16	0.	0.	7.98E-09	1.02E-05	2.05E-05	4.73E-06	3.54E-05									
70	3.80 3.14E-15 0.	1.50E-13	3.54E-11	4.10E-15	0.	4.10E-15	0.	0.	7.95E-09	1.10E-05	1.76E-05	4.94E-06	3.6E-05										
71	3.70 2.83E-15 0.	1.52E-13	1.68E-11	3.57E-15	0.	3.57E-15	0.	0.	7.82E-09	1.20E-05	1.85E-05	5.38E-06	3.58E-05										
72	3.60 2.58E-15 0.	1.12E-13	8.54E-11	3.86E-15	0.	3.86E-15	0.	0.	7.33E-09	1.30E-05	1.98E-05	5.88E-06	3.87E-05										
73	3.50 2.44E-15 0.	1.46E-13	1.51E-10	3.11E-15	0.	3.11E-15	0.	0.	6.71E-09	1.42E-05	2.11E-05	6.44E-06	4.17E-05										
74	3.40 2.27E-15 0.	9.61E-14	2.56E-11	3.50E-15	0.	3.50E-15	0.	0.	3.87E-09	1.55E-05	2.31E-05	7.07E-06	4.57E-05										
75	3.30 1.83E-15 0.	9.83E-14	9.33E-11	2.84E-15	0.	2.84E-15	0.	0.	3.87E-09	1.70E-05	2.53E-05	7.72E-06	4.99E-05										
76	3.20 1.62E-15 0.	6.58E-14	1.45E-10	3.01E-15	0.	3.01E-15	0.	0.	3.88E-09	1.86E-05	2.75E-05	8.40E-06	5.45E-05										
77	3.10 1.57E-15 0.	5.16E-14	4.07E-11	2.88E-15	0.	2.88E-15	0.	0.	3.89E-09	2.05E-05	2.98E-05	9.08E-06	5.94E-05										
78	3.00 1.42E-15 0.	3.20E-14	8.82E-11	2.76E-15	0.	2.76E-15	0.	0.	3.90E-09	2.27E-05	3.22E-05	9.77E-06	6.46E-05										
79	2.90 1.21E-15 0.	2.03E-14	4.77E-11	2.15E-15	0.	2.15E-15	0.	0.	3.91E-09	2.51E-05	3.47E-05	1.05E-05	7.03E-05										
80	2.80 1.28E-15 0.	9.79E-15	3.35E-11	1.53E-15	0.	1.53E-15	0.	0.	3.91E-09	2.80E-05	3.75E-05	1.14E-05	7.69E-05										
81	2.70 8.41E-16 0.	4.61E-15	4.15E-11	8.61E-16	0.	8.61E-16	0.	0.	3.91E-09	3.13E-05	3.65E-05	1.23E-05	8.01E-05										
82	2.60 4.07E-16 0.	2.21E-15	4.38E-12	3.88E-16	0.	3.88E-16	0.	0.	3.91E-09	3.51E-05	3.95E-05	1.33E-05	8.79E-05										
83	2.50 2.89E-17 0.	2.30E-16	4.30E-12	9.40E-17	0.	9.40E-17	0.	0.	3.91E-09	3.96E-05	4.46E-05	1.83E-06	9.25E-05										
84	2.40 0.	1.01E-14	0.	3.24E-12	1.01E-17	1.01E-17	0.	0.	3.91E-09	4.48E-05	3.94E-05	1.00E-05	9.43E-05										
85	2.30 0.	2.92E-14	0.	0.	0.	0.	0.	0.	3.88E-09	5.11E-05	4.75E-05	1.19E-05	1.10E-04										
86	2.20 0.	7.87E-14	0.	0.	0.	0.	0.	0.	3.87E-09	5.85E-05	5.58E-05	1.42E-05	1.28E-04										
87	2.10 0.	7.96E-14	0.	0.	0.	0.	0.	0.	3.85E-09	6.74E-05	6.47E-05	1.64E-05	1.48E-04										
88	2.00 0.	1.60E-13	0.	0.	0.	0.	0.	0.	3.73E-09	7.81E-05	7.36E-05	1.87E-05	1.70E-04										
89	1.90 0.	1.89E-13	0.	0.	0.	0.	0.	0.	3.58E-09	9.13E-05	8.41E-05	2.19E-05	1.97E-04										
90	1.80 0.	1.62E-13	0.	0.	0.	0.	0.	0.	3.43E-09	1.08E-04	1.00E-04	2.66E-05	2.35E-04										
91	1.70 0.	1.83E-13	0.	0.	0.	0.	0.	0.	3.23E-09	1.29E-04	1.20E-04	3.24E-05	2.81E-04										
92	1.60 0.	1.39E-13	0.	0.	0.	0.	0.	0.	2.73E-09	1.55E-04	1.39E-04	3.81E-05	3.33E-04										
93	1.50 0.	1.58E-13	0.	0.	0.	0.	0.	0.	1.24E-09	1.90E-04	1.80E-04	4.62E-05	4.16E-04										
94	1.40 0.	1.55E-13	0.	0.	0.	0.	0.	0.	0.	2.34E-04	2.15E-04	5.52E-05	5.04E-04										
95	1.30 0.	1.19E-13	0.	0.	0.	0.	0.	0.	0.	2.93E-04	2.98E-04	6.78E-05	6.40E-04										
96	1.20 0.	1.13E-13	0.	0.	0.	0.	0.	0.	0.	3.75E-04	3.28E-04	7.32E-05	7.76E-04										
97	1.10 0.	1.10E-13	0.	0.	0.	0.	0.	0.	0.	4.89E-04	4.04E-04	9.16E-05	9.85E-04										
98	1.00 0.	1.01E-13	0.	0.	0.	0.	0.	0.	0.	6.57E-04	4.90E-04	1.04E-04	1.25E-03										
99	0.90 0.	8.30E-14	0.	0.	0.	0.	0.	0.	0.	9.10E-04	5.64E-04	1.23E-04	1.60E-03										
100	0.80 0.	3.90E-14	0.	0.	0.	0.	0.	0.	0.	1.31E-03	6.49E-04	1.41E-04	2.10E-03										
101	0.70 0.	8.99E-15	0.	0.	0.	0.	0.	0.	0.	1.98E-03	7.01E-04	1.42E-04	2.82E-03										
102	0.60 0.	2.00E-15	0.	0.	0.	0.	0.	0.	0.	3.20E-03	7.13E-04	1.59E-04	4.07E-03										

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		21000.	DENSITY (GM/CC)		1.293E-07	(10.0E-05 NORMAL)		O		P.E.	
PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-K CONT.	N2 B-H NO. 1	NO RETA	NO GAMMA	NO Z	O- PHOTO-OET (IONS)	FREE-FREE	N	P.E.	TOTAL AIR
1	10.70 0.	0.	3.22E-17	0.	0.	0.	7.83E-12	6.31E-09	9.54E-07	8.39E-08	1.04E-06
2	10.60 0.	0.	2.96E-17	0.	0.	0.	7.84E-12	6.49E-09	9.68E-07	8.36E-08	1.06E-06
3	10.50 0.	0.	3.01E-17	0.	0.	0.	7.85E-12	6.68E-09	9.85E-07	8.33E-08	1.07E-07
4	10.40 0.	0.	2.89E-17	0.	0.	0.	7.86E-12	6.88E-09	9.87E-07	8.30E-08	1.07E-07
5	10.30 0.	0.	2.55E-17	0.	0.	0.	7.87E-12	7.08E-09	9.89E-07	8.27E-08	1.07E-07
6	10.20 0.	0.	2.65E-17	0.	0.	0.	7.88E-12	7.29E-09	9.93E-07	8.24E-08	1.07E-07
7	10.10 0.	0.	2.52E-17	0.	0.	0.	7.89E-12	7.52E-09	9.97E-07	8.22E-08	1.07E-07
8	10.00 0.	0.	2.25E-17	0.	0.	0.	7.90E-12	7.74E-09	9.97E-07	8.19E-08	1.07E-07
9	9.90 0.	0.	2.31E-17	0.	0.	0.	7.91E-12	7.98E-09	9.97E-07	8.17E-08	1.07E-07
10	9.80 0.	0.	2.20E-17	0.	0.	0.	7.93E-12	8.23E-09	9.97E-07	8.15E-08	1.07E-07
11	9.70 0.	0.	1.93E-17	0.	0.	0.	7.94E-12	8.49E-09	9.97E-07	8.12E-08	1.07E-07
12	9.60 0.	0.	2.09E-17	0.	0.	0.	7.96E-12	8.76E-09	9.97E-07	8.10E-08	1.07E-07
13	9.50 0.	0.	1.81E-17	0.	0.	0.	7.97E-12	9.04E-09	9.97E-07	8.07E-08	1.07E-07
14	9.40 0.	0.	1.74E-17	0.	0.	0.	8.00E-12	9.34E-09	9.97E-07	8.05E-08	1.07E-07
15	9.30 0.	0.	1.79E-17	0.	0.	0.	8.03E-12	9.64E-09	9.97E-07	8.03E-08	1.07E-07
16	9.20 0.	0.	1.51E-17	0.	0.	0.	8.06E-12	9.97E-09	9.97E-07	8.01E-08	1.07E-07
17	9.10 0.	0.	1.56E-17	0.	0.	0.	8.09E-12	1.03E-08	9.97E-07	7.99E-08	1.07E-07
18	9.00 0.	0.	1.43E-17	0.	0.	0.	8.12E-12	1.06E-08	9.97E-07	7.97E-08	1.07E-07
19	8.90 0.	0.	1.34E-17	0.	0.	0.	8.14E-12	1.10E-08	9.97E-07	7.95E-08	1.07E-07
20	8.80 0.	0.	1.33E-17	0.	0.	0.	8.17E-12	1.14E-08	9.97E-07	7.93E-08	1.07E-07
21	8.70 0.	0.	1.17E-17	0.	0.	0.	8.20E-12	1.18E-08	9.97E-07	7.92E-08	1.07E-07
22	8.60 0.	0.	1.21E-17	0.	0.	0.	8.23E-12	1.22E-08	9.97E-07	7.92E-08	1.07E-07
23	8.50 0.	0.	1.08E-17	0.	0.	0.	8.26E-12	1.27E-08	9.97E-07	7.92E-08	1.07E-07
24	8.40 0.	0.	1.08E-17	0.	0.	0.	8.30E-12	1.31E-08	9.97E-07	7.92E-08	1.07E-07
25	8.30 0.	0.	9.34E-18	0.	0.	0.	8.35E-12	1.36E-08	9.97E-07	7.92E-08	1.07E-07
26	8.20 0.	0.	9.51E-18	0.	0.	0.	8.39E-12	1.41E-08	9.97E-07	7.92E-08	1.07E-07
27	8.10 0.	0.	8.34E-18	0.	0.	0.	8.43E-12	1.46E-08	9.97E-07	7.92E-08	1.07E-07
28	8.00 0.	0.	8.45E-18	0.	0.	0.	8.48E-12	1.52E-08	9.97E-07	7.92E-08	1.07E-07
29	7.90 0.	0.	7.38E-18	0.	0.	0.	8.52E-12	1.58E-08	9.97E-07	7.92E-08	1.07E-07
30	7.80 0.	0.	7.72E-18	0.	0.	0.	8.56E-12	1.64E-08	9.97E-07	7.92E-08	1.07E-07
31	7.70 0.	0.	6.87E-18	0.	0.	0.	8.61E-12	1.71E-08	9.97E-07	7.92E-08	1.07E-07
32	7.60 0.	0.	6.59E-18	0.	0.	0.	8.65E-12	1.78E-08	9.97E-07	7.92E-08	1.07E-07
33	7.50 0.	0.	6.19E-18	0.	0.	0.	8.70E-12	1.85E-08	9.97E-07	7.92E-08	1.07E-07
34	7.40 0.	0.	5.62E-18	0.	0.	0.	8.74E-12	1.93E-08	9.97E-07	7.92E-08	1.07E-07
35	7.30 0.	0.	5.39E-18	0.	0.	0.	8.79E-12	2.01E-08	9.97E-07	7.92E-08	1.07E-07
36	7.20 0.	0.	4.92E-18	0.	0.	0.	8.84E-12	2.09E-08	9.97E-07	7.92E-08	1.07E-07
37	7.10 0.	0.	4.78E-18	0.	0.	0.	8.91E-12	2.18E-08	9.97E-07	7.92E-08	1.07E-07
38	7.00 0.	0.	4.44E-18	0.	0.	0.	8.99E-12	2.28E-08	9.97E-07	7.92E-08	1.07E-07
39	6.90 0.	0.	4.12E-18	0.	0.	0.	9.06E-12	2.38E-08	9.97E-07	7.92E-08	1.07E-07
40	6.80 0.	0.	4.02E-18	0.	0.	0.	9.13E-12	2.49E-08	9.97E-07	7.92E-08	1.07E-07
41	6.70 0.	0.	3.57E-18	0.	0.	0.	9.20E-12	2.60E-08	9.97E-07	7.92E-08	1.07E-07
42	6.60 0.	0.	3.24E-18	0.	0.	0.	9.27E-12	2.72E-08	9.97E-07	7.92E-08	1.07E-07
43	6.50 0.	0.	2.63E-18	0.	0.	0.	9.35E-12	2.85E-08	9.97E-07	7.92E-08	1.07E-07
44	6.40 0.	0.	1.86E-18	0.	0.	0.	9.42E-12	2.99E-08	9.97E-07	7.92E-08	1.07E-07
45	6.30 0.	0.	1.19E-18	0.	0.	0.	9.49E-12	3.13E-08	9.97E-07	7.92E-08	1.07E-07
46	6.20 0.	0.	6.71E-19	0.	0.	0.	9.56E-12	3.29E-08	9.97E-07	7.92E-08	1.07E-07
47	6.10 0.	0.	3.22E-19	0.	0.	0.	9.64E-12	3.45E-08	9.97E-07	7.92E-08	1.07E-07
48	6.00 0.	0.	8.28E-20	0.	0.	0.	9.71E-12	3.63E-08	9.97E-07	7.92E-08	1.07E-07
49	5.90 0.	0.	5.94E-21	0.	0.	0.	9.71E-12	3.82E-08	9.97E-07	7.92E-08	1.07E-07
50	5.80 0.	0.	1.50E-22	0.	0.	0.	9.56E-12	4.02E-08	9.97E-07	7.92E-08	1.07E-07
51	5.70 0.	0.	0.	0.	0.	0.	8.99E-12	4.24E-08	9.97E-07	7.92E-08	1.07E-07

### ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)				1.293E-07 (10.0E-05 NORMAL)				
PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO RETA	NO GAMMA	NO VIM-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N	P.E.	O P.E.	TOTAL AIR
52 5.60 3.3>E-27	0.	0.	0.	3.18E-19	2.05E-18	0.	0.	8.35E-12	4.47E-08	2.12E-07	7.96E-08	3.36E-07
53 5.50 0.	0.	0.	C.	3.89E-19	1.89E-18	0.	0.	8.40E-12	4.73E-08	2.21E-07	8.06E-08	3.49E-07
54 5.40 0.	0.	0.	0.	3.64E-19	1.58E-18	0.	0.	8.44E-12	5.00E-08	2.31E-07	8.17E-08	3.63E-07
55 5.30 0.	0.	0.	0.	3.73E-19	1.96E-18	0.	0.	8.50E-12	5.29E-08	2.42E-07	8.31E-08	3.78E-07
56 5.20 C.	0.	0.	0.	4.04E-19	1.54E-18	0.	0.	8.55E-12	5.60E-08	2.52E-07	8.47E-08	3.93E-07
57 5.10 0.	0.	0.	0.	4.05E-19	1.97E-18	0.	0.	8.62E-12	5.94E-08	2.63E-07	8.63E-08	4.09E-07
58 5.00 4.71E-20	0.	0.	0.	3.73E-19	1.88E-18	0.	0.	8.70E-12	6.31E-08	2.74E-07	8.79E-08	4.25E-07
59 4.90 1.16E-19	0.	0.	0.	4.18E-19	2.07E-18	0.	0.	8.77E-12	6.71E-08	2.86E-07	8.77E-08	4.41E-07
60 4.80 2.21E-19	0.	0.	0.	4.52E-19	1.96E-18	0.	0.	8.84E-12	7.14E-08	2.98E-07	8.98E-08	4.59E-07
61 4.70 3.02E-19	0.	0.	0.	4.56E-19	1.79E-18	0.	0.	8.91E-12	7.61E-08	3.14E-07	9.23E-08	4.82E-07
62 4.60 4.21E-19	0.	0.	0.	4.72E-19	1.62E-18	0.	0.	8.99E-12	8.13E-08	3.34E-07	9.50E-08	5.10E-07
63 4.50 4.48E-19	0.	4.30E-19	0.	4.37E-19	1.23E-18	0.	0.	9.06E-12	8.69E-08	3.55E-07	9.78E-08	5.40E-07
64 4.40 4.84E-19	0.	1.25E-18	0.	4.41E-19	8.35E-19	0.	0.	9.13E-12	9.30E-08	3.77E-07	1.01E-07	5.70E-07
65 4.30 4.63E-19	0.	4.30E-18	0.	4.26E-19	5.31E-19	0.	0.	9.20E-12	9.97E-08	3.99E-07	1.01E-07	6.00E-07
66 4.20 4.36E-19	0.	1.32E-17	0.	4.50E-19	3.65E-19	0.	0.	9.27E-12	1.07E-07	4.24E-07	9.02E-08	6.21E-07
67 4.10 4.13E-19	0.	6.13E-18	0.	4.45E-19	1.03E-19	0.	0.	9.31E-12	1.15E-07	4.50E-07	5.59E-08	6.21E-07
68 4.00 3.84E-19	0.	1.92E-17	0.	4.33E-19	7.71E-20	0.	0.	9.35E-12	1.24E-07	4.61E-07	5.91E-08	6.43E-07
69 3.90 3.31E-19	0.	9.14E-18	8.22E-15	4.06E-19	2.86E-20	0.	0.	9.31E-12	1.34E-07	4.53E-07	5.98E-08	6.47E-07
70 3.80 3.65E-19	0.	1.48E-17	3.22E-14	4.39E-19	0.	0.	0.	9.27E-12	1.45E-07	4.78E-07	6.27E-08	6.86E-07
71 3.70 3.30E-19	0.	1.50E-17	1.53E-14	3.82E-19	0.	0.	0.	9.13E-12	1.57E-07	4.97E-07	6.81E-08	7.22E-07
72 3.60 3.05E-19	0.	1.11E-17	7.78E-14	4.13E-19	0.	0.	0.	8.55E-12	1.71E-07	5.27E-07	7.40E-08	7.71E-07
73 3.50 2.84E-19	0.	1.44E-17	1.38E-13	3.32E-19	0.	0.	0.	7.83E-12	1.86E-07	5.61E-07	8.07E-08	8.28E-07
74 3.40 2.64E-19	0.	9.46E-18	2.33E-14	3.75E-19	0.	0.	0.	4.51E-12	2.03E-07	6.01E-07	8.83E-08	8.93E-07
75 3.30 2.13E-19	0.	9.67E-18	8.49E-14	3.04E-19	0.	0.	0.	4.52E-12	2.23E-07	6.41E-07	9.60E-08	9.60E-07
76 3.20 1.88E-19	0.	6.48E-18	1.32E-13	3.22E-19	0.	0.	0.	4.53E-12	2.45E-07	3.77E-07	1.03E-07	7.24E-07
77 3.10 1.82E-19	0.	5.08E-18	3.70E-14	3.08E-19	0.	0.	0.	4.54E-12	2.69E-07	4.04E-07	1.11E-07	7.84E-07
78 3.00 1.65E-19	0.	3.15E-18	8.03E-14	2.95E-19	0.	0.	0.	4.55E-12	2.98E-07	4.44E-07	1.20E-07	8.61E-07
79 2.90 1.41E-19	0.	2.00E-18	4.34E-14	2.30E-19	0.	0.	0.	4.56E-12	3.30E-07	4.85E-07	1.24E-07	9.40E-07
80 2.80 1.49E-19	0.	9.64E-19	3.05E-14	1.64E-19	0.	0.	0.	4.56E-12	3.67E-07	5.31E-07	1.31E-07	1.03E-06
81 2.70 9.78E-20	0.	4.54E-19	3.78E-14	9.22E-20	0.	0.	0.	4.56E-12	4.10E-07	5.78E-07	1.21E-07	1.11E-06
82 2.60 4.73E-20	0.	2.18E-19	3.99E-15	4.16E-20	0.	0.	0.	4.56E-12	4.60E-07	6.24E-07	8.68E-08	1.17E-06
83 2.50 3.36E-21	0.	2.26E-20	3.91E-15	1.01E-20	0.	0.	0.	4.56E-12	5.19E-07	5.82E-07	1.00E-07	1.20E-06
84 2.40 0.	9.89E-19	0.	2.95E-15	1.09E-21	0.	0.	0.	4.56E-12	5.88E-07	6.86E-07	1.21E-07	1.39E-06
85 2.30 0.	2.87E-18	0.	0.	0.	0.	0.	0.	4.53E-12	6.70E-07	8.01E-07	1.43E-07	1.61E-06
86 2.20 0.	7.75E-18	0.	0.	0.	0.	0.	0.	4.51E-12	7.67E-07	9.18E-07	1.69E-07	1.85E-06
87 2.10 0.	7.83E-18	0.	0.	0.	0.	0.	0.	4.49E-12	8.83E-07	1.04E-06	1.95E-07	2.12E-06
88 2.00 0.	1.57E-17	0.	0.	0.	0.	0.	0.	4.35E-12	1.02E-06	1.16E-06	2.21E-07	2.41E-06
89 1.90 0.	1.86E-17	0.	0.	0.	0.	0.	0.	4.18E-12	1.20E-06	1.30E-06	2.57E-07	2.76E-06
90 1.80 0.	1.60E-17	0.	0.	0.	0.	0.	0.	4.00E-12	1.41E-06	1.50E-06	3.09E-07	3.22E-06
91 1.70 0.	1.81E-17	0.	0.	0.	0.	0.	0.	3.77E-12	1.69E-06	1.39E-06	3.58E-07	3.43E-06
92 1.60 0.	1.37E-17	0.	0.	0.	0.	0.	0.	3.19E-12	2.03E-06	1.60E-06	4.07E-07	4.04E-06
93 1.50 0.	1.55E-17	0.	0.	0.	0.	0.	0.	1.45E-12	2.48E-06	1.94E-06	4.94E-07	4.91E-06
94 1.40 0.	1.53E-17	0.	0.	0.	0.	0.	0.	0.	3.06E-06	1.92E-06	5.58E-07	5.54E-06
95 1.30 0.	1.17E-17	0.	0.	0.	0.	0.	0.	0.	3.84E-06	2.72E-06	6.04E-07	7.16E-06
96 1.20 0.	1.12E-17	0.	0.	0.	0.	0.	0.	0.	4.90E-06	3.50E-06	8.04E-07	9.21E-06
97 1.10 0.	1.08E-17	0.	C.	0.	0.	1.93E-23	0.	0.	6.40E-06	4.37E-06	9.43E-07	1.17E-05
98 1.00 0.	9.46E-18	0.	0.	0.	0.	3.15E-22	0.	0.	8.59E-06	5.13E-06	1.14E-06	1.49E-05
99 0.90 0.	8.17E-18	0.	0.	0.	0.	3.69E-22	0.	0.	1.19E-05	5.53E-06	1.32E-06	1.87E-05
00 0.80 0.	3.83E-18	0.	0.	0.	0.	8.13E-21	0.	0.	1.71E-05	6.08E-06	1.35E-06	2.45E-05
01 0.70 0.	8.85E-18	0.	C.	0.	0.	7.76E-21	0.	0.	2.58E-05	5.76E-06	1.18E-06	3.28E-05
02 0.60 0.	1.96E-19	0.	0.	0.	0.	2.43E-20	0.	0.	4.17E-05	6.49E-06	1.33E-06	4.95E-05

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 21000. DENSITY (GM/CC) 1.293E-08 (1.0E-05 NORMAL)

PHOTON ENERGY E.V.	Q2 S-R CONT.	Q2 B-M NO. 1	NO RETA	NO GAMMA	NO 2	O- PHOTO-DET (IUNS)	FREE-FREE (IUNS)	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	1.88E-21	0.	0.	0.	1.17E-14	1.39E-10	1.37E-08	1.58E-09	1.54E-08
2 10.60 0.	0.	1.73E-21	0.	0.	0.	1.17E-14	1.43E-10	1.38E-08	1.58E-09	1.55E-08
3 10.50 0.	0.	1.76E-21	0.	0.	0.	1.17E-14	1.47E-10	1.39E-08	1.58E-09	1.56E-08
4 10.40 0.	0.	1.69E-21	0.	0.	0.	1.17E-14	1.52E-10	1.40E-08	1.58E-09	1.57E-08
5 10.30 0.	0.	1.49E-21	0.	0.	0.	1.17E-14	1.56E-10	1.42E-08	1.57E-09	1.59E-08
6 10.20 0.	0.	1.55E-21	0.	0.	0.	1.13E-14	1.61E-10	1.44E-08	1.58E-09	1.61E-08
7 10.10 0.	0.	1.48E-21	0.	0.	0.	1.18E-14	1.66E-10	1.46E-08	1.58E-09	1.63E-08
8 10.00 0.	0.	1.32E-21	0.	0.	0.	1.18E-14	1.71E-10	1.48E-08	1.59E-09	1.65E-08
9 9.90 0.	0.	1.35E-21	0.	0.	0.	1.18E-14	1.76E-10	1.50E-08	1.59E-09	1.67E-08
10 9.80 0.	0.	1.29E-21	0.	0.	0.	1.18E-14	1.81E-10	1.52E-08	1.60E-09	1.70E-08
11 9.70 0.	0.	1.13E-21	0.	0.	0.	1.19E-14	1.87E-10	1.54E-08	1.60E-09	1.72E-08
12 9.60 0.	0.	1.22E-21	0.	0.	0.	1.19E-14	1.93E-10	1.56E-08	1.61E-09	1.74E-08
13 9.50 0.	0.	1.06E-21	0.	0.	0.	1.19E-14	1.99E-10	1.58E-08	1.64E-09	1.77E-08
14 9.40 0.	0.	1.02E-21	0.	0.	0.	1.19E-14	2.06E-10	1.60E-08	1.62E-09	1.78E-08
15 9.30 0.	0.	1.05E-21	0.	0.	0.	1.20E-14	2.13E-10	1.54E-08	1.63E-09	1.72E-08
16 9.20 0.	0.	8.86E-22	0.	0.	0.	1.20E-14	2.20E-10	1.56E-08	1.63E-09	1.75E-08
17 9.10 0.	0.	9.12E-22	0.	0.	0.	1.21E-14	2.27E-10	1.58E-08	1.64E-09	1.77E-08
18 9.00 0.	0.	8.40E-22	0.	0.	0.	1.21E-14	2.35E-10	1.60E-08	1.64E-09	1.79E-08
19 8.90 0.	0.	7.88E-22	0.	0.	0.	1.22E-14	2.43E-10	1.62E-08	1.65E-09	1.81E-08
20 8.80 0.	0.	7.79E-22	0.	0.	0.	1.22E-14	2.51E-10	1.64E-08	1.30E-09	1.80E-08
21 8.70 0.	0.	6.87E-22	0.	0.	0.	1.22E-14	2.60E-10	1.66E-08	1.30E-09	1.82E-08
22 8.60 0.	0.	7.12E-22	0.	0.	0.	1.23E-14	2.69E-10	1.68E-08	1.31E-09	1.84E-08
23 8.50 0.	0.	6.34E-22	0.	0.	0.	1.23E-14	2.79E-10	1.71E-08	1.32E-09	1.87E-08
24 8.40 0.	0.	6.35E-22	0.	0.	0.	1.24E-14	2.89E-10	1.73E-08	1.33E-09	1.89E-08
25 8.30 0.	0.	5.47E-22	0.	0.	0.	1.25E-14	3.00E-10	1.00E-08	1.35E-09	1.17E-08
26 8.20 0.	0.	5.57E-22	0.	0.	0.	1.25E-14	3.11E-10	1.04E-08	1.37E-09	1.21E-08
27 8.10 0.	0.	4.89E-22	0.	0.	0.	1.26E-14	3.23E-10	1.08E-08	1.40E-09	1.25E-08
28 8.00 0.	0.	4.95E-22	0.	0.	0.	1.27E-14	3.35E-10	1.12E-08	1.42E-09	1.30E-08
29 7.90 0.	0.	4.32E-22	0.	0.	0.	1.27E-14	3.48E-10	1.16E-08	1.45E-09	1.34E-08
30 7.80 0.	0.	4.52E-22	0.	0.	0.	1.28E-14	3.61E-10	1.20E-08	1.47E-09	1.39E-08
31 7.70 0.	0.	4.03E-22	0.	0.	0.	1.28E-14	3.76E-10	1.25E-08	1.50E-09	1.43E-08
32 7.60 0.	0.	3.86E-22	0.	4.12E-26	0.	1.29E-14	3.91E-10	1.30E-08	1.52E-09	1.49E-08
33 7.50 0.	0.	3.63E-22	0.	1.31E-25	0.	1.30E-14	4.07E-10	1.35E-08	1.55E-09	1.54E-08
34 7.40 0.	0.	3.29E-22	0.	1.19E-24	0.	1.31E-14	4.24E-10	1.40E-08	1.58E-09	1.60E-08
35 7.30 0.	0.	3.16E-22	0.	4.51E-24	0.	1.31E-14	4.41E-10	1.28E-08	1.61E-09	1.49E-08
36 7.20 0.	0.	2.89E-22	0.	1.26E-23	0.	1.32E-14	4.60E-10	1.35E-08	1.65E-09	1.56E-08
37 7.10 0.	0.	2.80E-22	0.	3.97E-23	0.	1.33E-14	4.80E-10	1.42E-08	1.70E-09	1.64E-08
38 7.00 3.15E-25	0.	2.60E-22	0.	7.56E-23	0.	1.34E-14	5.01E-10	1.49E-08	1.75E-09	1.72E-08
39 6.90 6.19E-25	0.	2.42E-22	0.	1.11E-22	0.	1.35E-14	5.23E-10	1.56E-08	1.79E-09	1.79E-08
40 6.80 5.37E-25	0.	2.36E-22	0.	1.85E-22	0.	1.36E-14	5.47E-10	1.63E-08	1.84E-09	1.87E-08
41 6.70 3.95E-25	0.	2.09E-22	0.	1.78E-22	0.	1.37E-14	5.72E-10	1.70E-08	1.89E-09	1.95E-08
42 6.60 2.42E-25	0.	1.90E-22	0.	1.54E-22	0.	1.39E-14	5.98E-10	1.77E-08	1.94E-09	2.03E-08
43 6.50 1.41E-25	0.	1.54E-22	0.	2.18E-22	0.	1.40E-14	6.26E-10	1.84E-08	1.99E-09	2.10E-08
44 6.40 8.17E-26	0.	1.09E-22	6.75E-25	2.00E-22	0.	1.41E-14	6.56E-10	1.91E-08	2.04E-09	2.18E-08
45 6.30 4.84E-26	0.	6.95E-23	3.22E-24	1.51E-22	0.	1.42E-14	6.88E-10	1.98E-08	2.09E-09	2.26E-08
46 6.20 2.19E-26	0.	3.93E-23	4.54E-24	2.02E-22	0.	1.43E-14	7.22E-10	2.06E-08	2.15E-09	2.34E-08
47 6.10 1.02E-26	0.	1.88E-23	3.36E-23	2.44E-22	0.	1.44E-14	7.59E-10	2.13E-08	2.21E-09	2.43E-08
48 6.00 4.24E-27	0.	4.85E-24	1.31E-23	1.24E-22	0.	1.45E-14	7.97E-10	6.56E-09	1.26E-09	8.62E-09
49 5.90 1.66E-27	0.	3.48E-25	1.94E-23	1.20E-22	0.	1.45E-14	8.39E-10	6.79E-09	1.27E-09	8.90E-09
50 5.80 1.36E-28	0.	6.81E-27	2.73E-23	1.26E-22	0.	1.43E-14	8.84E-10	7.02E-09	1.29E-09	9.19E-09
51 5.70 9.94E-30	0.	0.	3.25E-23	1.41E-22	0.	1.34E-14	9.31E-10	7.34E-09	1.31E-09	9.59E-09

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 21000. DENSITY (GM/CC) 1.293E-08 (1.0E-05 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 3RD POS.	1ST DEG.	2ND DEG.	3RD DEG.	NO GAMMA	NO VIR-ROT	NO 2	PHOTD-OET (LINS)	MPF-FRFE	N P.E.	TOTAL AIR P.E.
72	5.60	4.5E-31	0.	0.	2.83E-23	1.82E-22	0.	0.	0.	1.25E-14	9.83E-10	7.77E-09	1.34E-09
73	5.50	0.	0.	0.	3.46E-23	1.69E-22	0.	0.	0.	1.25E-14	1.04E-09	8.21E-09	1.37E-09
74	5.40	0.	0.	0.	3.23E-23	1.41E-22	0.	0.	0.	1.26E-14	1.10E-09	8.70E-09	1.41E-09
75	5.30	0.	0.	0.	3.31E-23	1.74E-22	0.	0.	0.	1.27E-14	1.16E-09	9.1ME-09	1.44E-09
76	5.20	0.	0.	0.	3.60E-23	1.37E-22	0.	0.	0.	1.28E-14	1.23E-09	9.66E-09	1.50E-09
77	5.10	0.	0.	0.	3.60E-23	1.75E-22	0.	0.	0.	1.29E-14	1.30E-09	1.01E-08	1.50E-09
78	5.00	0.	0.	0.	3.32E-23	1.67E-22	0.	0.	0.	1.30E-14	1.38E-09	1.06E-08	1.41E-09
79	4.90	1.57E-23	0.	0.	3.72E-23	1.85E-22	0.	0.	0.	1.31E-14	1.47E-09	1.11E-08	1.45E-09
80	4.80	0.	0.	0.	4.02E-23	1.74E-22	0.	0.	0.	1.32E-14	1.57E-09	1.16E-08	1.50E-09
81	4.70	0.	0.	0.	4.06E-23	1.59E-22	0.	0.	0.	1.33E-14	1.67E-09	1.23E-08	1.55E-09
82	4.60	0.	0.	0.	4.20E-23	1.44E-22	0.	0.	0.	1.34E-14	1.78E-09	1.33E-08	1.61E-09
83	4.50	0.	0.	0.	3.89E-23	1.09E-22	0.	0.	0.	1.35E-14	1.90E-09	1.42E-08	1.67E-09
84	4.40	0.	0.	0.	3.93E-23	7.43E-23	0.	0.	0.	1.36E-14	2.04E-09	1.51E-08	1.74E-09
85	4.30	0.	0.	0.	3.79E-23	4.72E-23	0.	0.	0.	1.37E-14	2.19E-09	1.60E-08	1.78E-09
86	4.20	0.	0.	0.	4.00E-23	3.25E-23	0.	0.	0.	1.39E-14	2.35E-09	1.71E-08	1.84E-09
87	4.10	0.	0.	0.	3.96E-23	9.17E-24	0.	0.	0.	1.39E-14	2.52E-09	1.82E-08	1.92E-09
88	4.00	0.	0.	0.	3.85E-23	6.86E-24	0.	0.	0.	1.40E-14	2.72E-09	1.93E-08	2.00E-09
89	3.90	0.	0.	0.	3.61E-23	2.55E-24	0.	0.	0.	1.39E-14	2.94E-09	2.02E-08	2.08E-09
90	3.80	0.	0.	0.	8.64E-22	0.	0.	0.	0.	1.36E-14	3.17E-09	2.13E-08	2.16E-09
91	3.70	0.	0.	0.	6.48E-22	0.	0.	0.	0.	1.36E-14	3.44E-09	2.24E-08	2.24E-09
92	3.60	0.	0.	0.	8.41E-22	0.	0.	0.	0.	1.28E-14	3.74E-09	2.36E-08	2.32E-09
93	3.50	0.	0.	0.	5.55E-22	0.	0.	0.	0.	1.17E-14	4.08E-09	2.48E-08	2.40E-09
94	3.40	0.	0.	0.	5.67E-22	0.	0.	0.	0.	6.74E-15	4.45E-09	2.60E-08	2.48E-09
95	3.30	0.	0.	0.	3.80E-22	0.	0.	0.	0.	6.75E-15	4.88E-09	2.74E-08	2.56E-09
96	3.20	0.	0.	0.	2.98E-22	0.	0.	0.	0.	6.76E-15	5.35E-09	2.89E-08	2.64E-09
97	3.10	0.	0.	0.	2.98E-22	0.	0.	0.	0.	6.78E-15	5.90E-09	3.05E-08	2.72E-09
98	3.00	0.	0.	0.	1.85E-22	0.	0.	0.	0.	6.79E-15	6.51E-09	3.22E-08	2.80E-09
99	2.90	0.	0.	0.	1.17E-22	0.	0.	0.	0.	6.81E-15	7.22E-09	3.40E-08	2.88E-09
100	2.80	0.	0.	0.	5.65E-23	0.	0.	0.	0.	6.82E-15	8.03E-09	3.57E-08	2.96E-09
101	2.70	0.	0.	0.	2.66E-23	0.	0.	0.	0.	6.82E-15	8.97E-09	3.74E-08	3.04E-09
102	2.60	0.	0.	0.	1.28E-23	0.	0.	0.	0.	6.82E-15	1.01E-08	3.91E-08	3.12E-09
103	2.50	0.	0.	0.	1.32E-24	0.	0.	0.	0.	6.82E-15	1.13E-08	4.08E-08	3.20E-09
104	2.40	0.	0.	0.	1.35E-18	0.	0.	0.	0.	6.82E-15	1.28E-08	4.24E-08	3.28E-09
105	2.30	0.	0.	0.	0.	0.	0.	0.	0.	6.76E-15	1.46E-08	4.40E-08	3.36E-09
106	2.20	0.	0.	0.	0.	0.	0.	0.	0.	6.73E-15	1.67E-08	4.56E-08	3.44E-09
107	2.10	0.	0.	0.	0.	0.	0.	0.	0.	6.71E-15	1.93E-08	4.72E-08	3.52E-09
108	2.00	0.	0.	0.	0.	0.	0.	0.	0.	6.49E-15	2.23E-08	4.88E-08	3.60E-09
109	1.90	0.	0.	0.	0.	0.	0.	0.	0.	6.24E-15	2.61E-08	5.04E-08	3.68E-09
110	1.80	0.	0.	0.	0.	0.	0.	0.	0.	5.97E-15	3.08E-08	5.20E-08	3.76E-09
111	1.70	0.	0.	0.	0.	0.	0.	0.	0.	5.63E-15	3.68E-08	5.36E-08	3.84E-09
112	1.60	0.	0.	0.	0.	0.	0.	0.	0.	4.76E-15	4.43E-08	5.52E-08	3.92E-09
113	1.50	0.	0.	0.	0.	0.	0.	0.	0.	2.16E-15	5.40E-08	5.68E-08	4.00E-09
114	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.66E-08	6.15E-08	4.08E-09
115	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.35E-08	6.81E-08	4.16E-09
116	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.07E-07	7.47E-08	4.24E-09
117	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.39E-07	8.03E-08	4.32E-09
118	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.86E-07	8.59E-08	4.40E-09
119	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.57E-07	9.15E-08	4.48E-09
120	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.69E-07	9.71E-08	4.56E-09
121	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.58E-07	1.02E-07	4.64E-09
122	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.98E-07	1.07E-07	4.72E-09

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-09 (1.0E-C6 NORMAL)		FREE-FREE		PHOTO-DET (IONS)		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15
1 10.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 1.71E-29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 3.36E-29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 2.92E-29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 2.15E-29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 1.32E-29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 7.67E-30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 4.44E-30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 2.61E-30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 1.19E-30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 5.52E-31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 2.33E-31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 5.77E-32	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 7.37E-33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 5.43E-34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 21000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)												
PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R COMT.	N2 R-H NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-OET (IONS)	FREE-FREE N P.E.	O P.E.	TOTAL AIR		
1 10.70 0.	0.	0.	1.82E-26	0.	0.	0.	1.11E-17 2.76E-12 3.03E-10	4.65E-11	4.65E-11	3.52E-10		
2 10.60 0.	0.	0.	1.67E-26	0.	0.	0.	1.11E-17 2.84E-12 3.06E-10	4.65E-11	4.65E-11	3.55E-10		
3 10.50 0.	0.	0.	1.70E-26	0.	0.	0.	1.11E-17 2.92E-12 3.08E-10	4.65E-11	4.65E-11	3.57E-10		
4 10.40 0.	0.	0.	1.63E-26	0.	0.	0.	1.11E-17 3.01E-12 3.10E-10	4.65E-11	4.65E-11	3.60E-10		
5 10.30 0.	0.	0.	1.44E-26	0.	0.	0.	1.11E-17 3.10E-12 3.14E-10	4.66E-11	4.66E-11	3.63E-10		
6 10.20 0.	0.	0.	1.50E-26	0.	0.	0.	1.12E-17 3.19E-12 3.18E-10	4.70E-11	4.70E-11	3.69E-10		
7 10.10 0.	0.	0.	1.42E-26	0.	0.	0.	1.12E-17 3.29E-12 3.23E-10	4.75E-11	4.75E-11	3.74E-10		
8 10.00 0.	0.	0.	1.27E-26	0.	0.	0.	1.12E-17 3.39E-12 3.28E-10	4.80E-11	4.80E-11	3.80E-10		
9 9.90 0.	0.	0.	1.31E-26	0.	0.	0.	1.12E-17 3.49E-12 3.33E-10	4.85E-11	4.85E-11	3.85E-10		
10 9.80 0.	0.	0.	1.24E-26	0.	0.	0.	1.12E-17 3.60E-12 3.38E-10	4.90E-11	4.90E-11	3.91E-10		
11 9.70 0.	0.	0.	1.09E-26	0.	0.	0.	1.12E-17 3.71E-12 3.43E-10	4.95E-11	4.95E-11	3.96E-10		
12 9.60 0.	0.	0.	1.18E-26	0.	0.	0.	1.13E-17 3.83E-12 3.48E-10	5.00E-11	5.00E-11	4.02E-10		
13 9.50 0.	0.	0.	1.03E-26	0.	0.	0.	1.13E-17 3.95E-12 3.53E-10	5.05E-11	5.05E-11	4.07E-10		
14 9.40 0.	0.	0.	9.84E-27	0.	0.	0.	1.13E-17 4.08E-12 3.55E-10	5.10E-11	5.10E-11	4.10E-10		
15 9.30 0.	0.	0.	1.01E-26	0.	0.	0.	1.14E-17 4.21E-12 3.60E-10	5.16E-11	5.16E-11	4.16E-10		
16 9.20 0.	0.	0.	8.56E-27	0.	0.	0.	1.14E-17 4.35E-12 3.65E-10	5.20E-11	5.20E-11	4.22E-10		
17 9.10 0.	0.	0.	8.81E-27	0.	0.	0.	1.14E-17 4.50E-12 3.70E-10	5.26E-11	5.26E-11	4.27E-10		
18 9.00 0.	0.	0.	8.12E-27	0.	0.	0.	1.15E-17 4.65E-12 3.75E-10	5.47E-11	5.47E-11	4.34E-10		
19 8.90 0.	0.	0.	7.61E-27	0.	0.	0.	1.15E-17 4.81E-12 3.80E-10	5.37E-11	5.37E-11	4.41E-10		
20 8.80 0.	0.	0.	7.52E-27	0.	0.	0.	1.16E-17 4.98E-12 3.85E-10	5.34E-11	5.34E-11	4.23E-10		
21 8.70 0.	0.	0.	6.64E-27	0.	0.	0.	1.16E-17 5.15E-12 3.90E-10	5.42E-11	5.42E-11	4.29E-10		
22 8.60 0.	0.	0.	6.88E-27	0.	0.	0.	1.17E-17 5.33E-12 3.95E-10	5.49E-11	5.49E-11	4.34E-10		
23 8.50 0.	0.	0.	6.12E-27	0.	0.	0.	1.17E-17 5.52E-12 4.00E-10	5.57E-11	5.57E-11	4.42E-10		
24 8.40 0.	0.	0.	6.13E-27	0.	0.	0.	1.18E-17 5.72E-12 4.05E-10	5.64E-11	5.64E-11	4.45E-10		
25 8.30 0.	0.	0.	5.29E-27	0.	0.	0.	1.18E-17 5.93E-12 4.10E-10	5.72E-11	5.72E-11	4.55E-10		
26 8.20 0.	0.	0.	5.38E-27	0.	0.	0.	1.19E-17 6.16E-12 4.20E-10	5.86E-11	5.86E-11	4.65E-10		
27 8.10 0.	0.	0.	4.72E-27	0.	0.	0.	1.19E-17 6.39E-12 4.25E-10	6.00E-11	6.00E-11	4.75E-10		
28 8.00 0.	0.	0.	4.79E-27	0.	0.	0.	1.20E-17 6.63E-12 4.29E-10	6.14E-11	6.14E-11	4.85E-10		
29 7.90 0.	0.	0.	4.18E-27	0.	0.	0.	1.21E-17 6.89E-12 4.34E-10	6.27E-11	6.27E-11	4.95E-10		
30 7.80 0.	0.	0.	4.37E-27	0.	0.	0.	1.21E-17 7.16E-12 4.39E-10	6.41E-11	6.41E-11	5.05E-10		
31 7.70 0.	0.	0.	3.89E-27	0.	0.	0.	1.22E-17 7.44E-12 4.44E-10	6.55E-11	6.55E-11	5.15E-10		
32 7.60 0.	0.	0.	3.73E-27	0.	9.43E-31	0.	1.22E-17 7.74E-12 4.49E-10	6.70E-11	6.70E-11	5.25E-10		
33 7.50 0.	0.	0.	3.50E-27	0.	3.01E-30	0.	1.23E-17 8.05E-12 4.54E-10	6.84E-11	6.84E-11	5.35E-10		
34 7.40 0.	0.	0.	3.18E-27	0.	2.73E-29	0.	1.24E-17 8.39E-12 4.59E-10	6.98E-11	6.98E-11	5.45E-10		
35 7.30 0.	0.	0.	3.05E-27	0.	1.03E-28	0.	1.24E-17 8.74E-12 4.64E-10	7.12E-11	7.12E-11	5.55E-10		
36 7.20 0.	0.	0.	2.79E-27	0.	2.89E-28	0.	1.25E-17 9.11E-12 4.69E-10	7.27E-11	7.27E-11	5.65E-10		
37 7.10 0.	0.	0.	2.71E-27	0.	9.11E-28	0.	1.26E-17 9.50E-12 4.74E-10	7.41E-11	7.41E-11	5.75E-10		
38 7.00 1.71E-29	0.	0.	2.52E-27	0.	1.73E-27	0.	1.27E-17 9.91E-12 4.79E-10	7.56E-11	7.56E-11	5.85E-10		
39 6.90 3.36E-29	0.	0.	2.33E-27	0.	2.54E-27	0.	1.28E-17 1.03E-11 4.84E-10	7.70E-11	7.70E-11	5.95E-10		
40 6.80 2.92E-29	0.	0.	2.28E-27	0.	4.23E-27	0.	1.29E-17 1.08E-11 4.89E-10	7.85E-11	7.85E-11	6.05E-10		
41 6.70 2.15E-29	0.	0.	2.02E-27	0.	4.09E-27	0.	1.30E-17 1.13E-11 4.94E-10	8.00E-11	8.00E-11	6.15E-10		
42 6.60 1.32E-29	0.	0.	1.84E-27	0.	3.53E-27	0.	1.31E-17 1.18E-11 4.99E-10	8.15E-11	8.15E-11	6.25E-10		
43 6.50 7.67E-30	0.	0.	1.49E-27	0.	5.00E-27	0.	1.32E-17 1.24E-11 5.04E-10	8.30E-11	8.30E-11	6.35E-10		
44 6.40 4.44E-30	0.	0.	1.05E-27	0.	4.58E-27	0.	1.33E-17 1.30E-11 5.09E-10	8.45E-11	8.45E-11	6.45E-10		
45 6.30 2.61E-30	0.	0.	6.72E-28	0.	3.46E-27	0.	1.34E-17 1.36E-11 5.14E-10	8.60E-11	8.60E-11	6.55E-10		
46 6.20 1.19E-30	0.	0.	3.80E-28	0.	4.63E-27	0.	1.35E-17 1.43E-11 5.19E-10	8.75E-11	8.75E-11	6.65E-10		
47 6.10 5.52E-31	0.	0.	1.82E-28	0.	5.59E-27	0.	1.36E-17 1.50E-11 5.24E-10	8.90E-11	8.90E-11	6.75E-10		
48 6.00 2.33E-31	0.	0.	4.68E-29	0.	3.00E-28	0.	1.37E-17 1.58E-11 5.29E-10	9.05E-11	9.05E-11	6.85E-10		
49 5.90 5.77E-32	0.	0.	3.36E-30	0.	4.44E-28	0.	1.37E-17 1.66E-11 5.34E-10	9.20E-11	9.20E-11	6.95E-10		
50 5.80 7.37E-33	0.	0.	8.51E-32	0.	6.26E-28	0.	1.35E-17 1.75E-11 5.39E-10	9.35E-11	9.35E-11	7.05E-10		
51 5.70 5.43E-34	0.	0.	0.	0.	7.45E-28	0.	1.27E-17 1.84E-11 5.44E-10	9.50E-11	9.50E-11	7.15E-10		

## ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

[illegible]

TEMPERATURE (DEGREES K) 2200C.  
DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 22000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON U2 S-R	N2	N2	N2+	BETA	NO	GAMMA	NO	VIB-ROT	NO	PHOTO-DET (IONS)	FREE-FREE	N	P.E.	0	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.												
52 5.60 1.24E-11 0.	0.	0.	0.	1.85E-03	1.19E-02	0.	0.	0.	0.	5.73E 00	5.01E 00	1.28E 01	6.36E 00	3.00E 01	
53 5.50 0. 0.	0.	0.	0.	2.27E-03	1.10E-02	0.	0.	0.	0.	5.76E 00	5.29E 00	1.31E 01	6.42E 00	3.06E 01	
54 5.40 0. 0.	0.	0.	0.	2.13E-03	9.26E-03	0.	0.	0.	0.	5.79E 00	5.60E 00	1.35E 01	6.49E 00	3.14E 01	
55 5.30 0. 0.	0.	0.	0.	2.18E-03	1.14E-02	0.	0.	0.	0.	5.83E 00	5.92E 00	1.39E 01	6.58E 00	3.22E 01	
56 5.20 0. 0.	0.	0.	0.	2.37E-03	9.09E-03	0.	0.	0.	0.	5.86E 00	6.28E 00	1.42E 01	6.68E 00	3.31E 01	
57 5.10 0. 0.	0.	0.	0.	2.38E-03	1.16E-02	0.	0.	0.	0.	5.91E 00	6.66E 00	1.47E 01	6.79E 00	3.40E 01	
58 5.00 1.83E-04 0.	0.	0.	0.	2.19E-03	1.11E-02	0.	0.	0.	0.	5.96E 00	7.07E 00	1.51E 01	6.89E 00	3.51E 01	
59 4.90 4.52E-04 0.	0.	0.	0.	2.46E-03	1.13E-02	0.	0.	0.	0.	6.01E 00	7.52E 00	1.57E 01	7.02E 00	3.62E 01	
60 4.80 8.63E-04 0.	0.	0.	0.	2.66E-03	1.16E-02	0.	0.	0.	0.	6.06E 00	8.00E 00	1.61E 01	7.17E 00	3.75E 01	
61 4.70 1.19E-03 0.	0.	0.	0.	2.69E-03	1.05E-02	0.	0.	0.	0.	6.11E 00	8.53E 00	1.64E 01	7.36E 00	3.89E 01	
62 4.60 1.66E-03 0.	0.	0.	0.	2.79E-03	9.63E-03	0.	0.	0.	0.	6.16E 00	9.10E 00	1.76E 01	7.56E 00	4.05E 01	
63 4.50 1.77E-03 0.	4.38E-03	0.	0.	2.59E-03	7.28E-03	0.	0.	0.	0.	6.21E 00	9.73E 00	1.86E 01	7.77E 00	4.23E 01	
64 4.40 1.92E-03 0.	1.26E-02	0.	0.	2.62E-03	4.95E-03	0.	0.	0.	0.	6.26E 00	1.04E 01	1.95E 01	7.98E 00	4.42E 01	
65 4.30 1.84E-03 0.	4.40E-02	0.	0.	2.54E-03	3.16E-03	0.	0.	0.	0.	6.31E 00	1.12E 01	2.06E 01	8.21E 00	4.63E 01	
66 4.20 1.73E-03 0.	1.34E-01	0.	0.	2.68E-03	2.16E-03	0.	0.	0.	0.	6.36E 00	1.20E 01	2.17E 01	8.44E 00	4.86E 01	
67 4.10 1.65E-03 0.	6.31E-02	0.	0.	2.66E-03	6.12E-04	0.	0.	0.	0.	6.39E 00	1.29E 01	2.27E 01	8.60E 00	5.05E 01	
68 4.00 1.54E-03 0.	1.95E-01	0.	0.	2.59E-03	4.57E-04	0.	0.	0.	0.	6.41E 00	1.39E 01	2.38E 01	8.78E 00	5.28E 01	
69 3.90 1.33E-03 0.	9.33E-02	9.92E-03	0.	2.59E-03	1.69E-04	0.	0.	0.	0.	6.39E 00	1.50E 01	2.37E 01	8.78E 00	5.28E 01	
70 3.80 1.46E-03 0.	1.51E-01	3.80E-02	0.	2.64E-03	0.	0.	0.	0.	0.	6.36E 00	1.63E 01	2.39E 01	8.61E 00	5.13E 01	
71 3.70 1.33E-03 0.	1.52E-01	1.86E-02	2.31E-03	0.	0.	0.	0.	0.	0.	6.24E 00	1.76E 01	2.02E 01	8.03E 00	4.93E 01	
72 3.60 1.21E-03 0.	1.14E-01	9.35E-02	2.49E-03	0.	0.	0.	0.	0.	0.	5.86E 00	1.92E 01	2.18E 01	8.48E 00	5.25E 01	
73 3.50 1.15E-03 0.	1.47E-01	1.62E-01	2.02E-03	0.	0.	0.	0.	0.	0.	5.37E 00	2.09E 01	2.32E 01	8.60E 00	5.58E 01	
74 3.40 1.07E-03 0.	9.77E-02	2.83E-02	2.27E-03	0.	0.	0.	0.	0.	0.	3.10E 00	2.28E 01	2.57E 01	8.60E 00	5.84E 01	
75 3.30 3.64E-04 0.	9.98E-02	1.01E-01	1.85E-03	0.	0.	0.	0.	0.	0.	3.10E 00	2.50E 01	2.83E 01	7.20E 00	6.39E 01	
76 3.20 7.66E-04 0.	6.71E-02	1.54E-01	1.96E-03	0.	0.	0.	0.	0.	0.	3.11E 00	2.75E 01	3.10E 01	7.84E 00	6.96E 01	
77 3.10 7.45E-04 0.	5.28E-02	4.50E-02	1.89E-03	0.	0.	0.	0.	0.	0.	3.11E 00	3.03E 01	3.37E 01	8.47E 00	7.56E 01	
78 3.00 6.74E-04 0.	3.28E-02	9.57E-02	1.81E-03	0.	0.	0.	0.	0.	0.	3.12E 00	3.34E 01	3.64E 01	9.11E 00	8.22E 01	
79 2.90 5.81E-04 0.	2.09E-02	5.16E-02	1.42E-03	0.	0.	0.	0.	0.	0.	3.13E 00	3.71E 01	3.93E 01	9.83E 00	8.95E 01	
80 2.80 6.13E-04 0.	1.01E-02	3.70E-02	1.02E-03	0.	0.	0.	0.	0.	0.	3.13E 00	4.13E 01	4.20E 01	1.07E 01	9.79E 01	
81 2.70 4.05E-04 0.	4.75E-03	4.49E-02	5.76E-04	0.	0.	0.	0.	0.	0.	3.13E 00	4.61E 01	4.66E 01	1.16E 01	1.07E 02	
82 2.60 1.97E-04 0.	2.27E-03	4.50E-03	2.61E-04	0.	0.	0.	0.	0.	0.	3.13E 00	5.18E 01	5.04E 01	1.25E 01	1.18E 02	
83 2.50 1.40E-05 0.	2.34E-04	4.72E-03	6.34E-05	0.	0.	0.	0.	0.	0.	3.13E 00	5.84E 01	5.78E 01	1.31E 00	1.24E 02	
84 2.40 0. 1.01E-02 0.	0.	0.	3.51E-03	6.87E-06	0.	0.	0.	0.	0.	3.13E 00	6.62E 01	6.72E 01	9.51E 00	1.46E 02	
85 2.30 0. 2.89E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.11E 00	7.53E 01	6.07E 01	1.13E 01	1.50E 02	
86 2.20 0. 7.87E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.09E 00	8.43E 01	7.17E 01	1.35E 01	1.75E 02	
87 2.10 0. 7.88E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.02E 00	9.94E 01	8.34E 01	1.56E 01	2.02E 02	
88 2.00 0. 1.59E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.98E 00	1.15E 02	9.53E 01	1.78E 01	2.32E 02	
89 1.90 0. 1.84E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.87E 00	1.35E 02	1.10E 02	2.09E 01	2.69E 02	
90 1.80 0. 1.59E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.74E 00	1.60E 02	1.31E 02	2.55E 01	3.20E 02	
91 1.70 0. 1.79E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.58E 00	1.91E 02	1.58E 02	3.10E 01	3.83E 02	
92 1.60 0. 1.36E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.19E 00	2.30E 02	1.85E 02	5.66E 01	4.54E 02	
93 1.50 0. 1.54E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.94E-01	2.80E 02	2.42E 02	4.43E 01	5.67E 02	
94 1.40 0. 1.51E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.44E 02	3.03E 02	5.30E 01	7.02E 02	
95 1.30 0. 1.16E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.33E 02	4.08E 02	6.98E 01	9.12E 02	
96 1.20 0. 1.11E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.53E 02	4.59E 02	7.04E 01	1.08E 03	
97 1.10 0. 1.08E-01 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.24E 02	5.64E 02	8.81E 01	1.38E 03	
98 1.00 0. 9.92E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.72E 02	6.88E 02	1.01E 02	1.76E 03	
99 0.90 0. 8.13E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.35E 03	7.93E 02	1.18E 02	2.26E 03	
100 0.80 0. 3.81E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.94E 03	9.13E 02	1.35E 02	2.99E 03	
101 0.70 0. 8.76E-03 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.94E 03	9.84E 02	1.36E 02	4.04E 03	
102 0.60 0. 2.04E-03 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.75E 03	1.10E 03	1.52E 02	6.00E 03	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2200C. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY E.V.	02 S-R CONT.	02 R-M NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	0.	1.60E-03	0.	0.	0.	1.20E-01	5.28E-02	2.20E 01	5.37E-01	2.27E 01
2 10.60 0.	0.	1.48E-03	0.	0.	0.	1.20E-01	5.43E-02	1.73E 00	5.35E-01	2.44E 00
3 10.50 0.	0.	1.51E-03	0.	0.	0.	1.20E-01	5.59E-02	1.74E 00	5.33E-01	2.45E 00
4 10.40 0.	0.	1.45E-03	0.	0.	0.	1.20E-01	5.75E-02	1.74E 00	5.30E-01	2.45E 00
5 10.30 0.	0.	1.28E-03	0.	0.	0.	1.21E-01	5.92E-02	1.75E 00	5.28E-01	2.46E 00
6 10.20 0.	0.	1.34E-03	0.	0.	0.	1.21E-01	6.10E-02	1.75E 00	5.25E-01	2.46E 00
7 10.10 0.	0.	1.27E-03	0.	0.	0.	1.21E-01	6.28E-02	1.75E 00	5.23E-01	2.45E 00
8 10.00 0.	0.	1.14E-03	0.	0.	0.	1.21E-01	6.48E-02	1.75E 00	5.20E-01	2.45E 00
9 9.90 0.	0.	1.17E-03	0.	0.	0.	1.21E-01	6.68E-02	1.75E 00	5.18E-01	2.46E 00
10 9.80 0.	0.	1.12E-03	0.	0.	0.	1.22E-01	6.88E-02	1.75E 00	5.16E-01	2.46E 00
11 9.70 0.	0.	9.85E-04	0.	0.	0.	1.22E-01	7.10E-02	1.76E 00	5.13E-01	2.46E 00
12 9.60 0.	0.	1.07E-03	0.	0.	0.	1.22E-01	7.33E-02	1.76E 00	5.11E-01	2.47E 00
13 9.50 0.	0.	9.31E-04	0.	0.	0.	1.22E-01	7.57E-02	1.77E 00	5.08E-01	2.47E 00
14 9.40 0.	0.	8.94E-04	0.	0.	0.	1.23E-01	7.81E-02	1.77E 00	5.06E-01	2.48E 00
15 9.30 0.	0.	9.21E-04	0.	0.	0.	1.23E-01	8.07E-02	1.78E 00	5.03E-01	2.49E 00
16 9.20 0.	0.	7.82E-04	0.	0.	0.	1.24E-01	8.34E-02	1.78E 00	5.01E-01	2.49E 00
17 9.10 0.	0.	8.06E-04	0.	0.	0.	1.24E-01	8.62E-02	1.78E 00	4.99E-01	2.49E 00
18 9.00 0.	0.	7.45E-04	0.	0.	0.	1.24E-01	8.91E-02	1.78E 00	4.97E-01	2.49E 00
19 8.90 0.	0.	7.00E-04	0.	0.	0.	1.25E-01	9.22E-02	1.78E 00	4.94E-01	2.49E 00
20 8.80 0.	0.	6.93E-04	0.	0.	0.	1.25E-01	9.54E-02	1.79E 00	4.92E-01	2.49E 00
21 8.70 0.	0.	6.14E-04	0.	0.	0.	1.26E-01	9.88E-02	1.79E 00	4.90E-01	2.49E 00
22 8.60 0.	0.	6.37E-04	0.	0.	0.	1.26E-01	1.02E-01	1.79E 00	4.88E-01	2.49E 00
23 8.50 0.	0.	5.69E-04	0.	0.	0.	1.27E-01	1.06E-01	1.79E 00	4.86E-01	2.49E 00
24 8.40 0.	0.	5.71E-04	0.	0.	0.	1.27E-01	1.10E-01	1.79E 00	4.84E-01	2.49E 00
25 8.30 0.	0.	4.94E-04	0.	0.	0.	1.28E-01	1.14E-01	1.79E 00	4.83E-01	2.49E 00
26 8.20 0.	0.	5.04E-04	0.	0.	0.	1.29E-01	1.18E-01	1.79E 00	4.83E-01	2.49E 00
27 8.10 0.	0.	4.44E-04	0.	0.	0.	1.29E-01	1.23E-01	1.79E 00	4.83E-01	2.49E 00
28 8.00 0.	0.	4.50E-04	0.	0.	0.	1.30E-01	1.27E-01	1.79E 00	4.84E-01	2.49E 00
29 7.90 0.	0.	3.94E-04	0.	0.	0.	1.31E-01	1.32E-01	1.79E 00	4.84E-01	2.49E 00
30 7.80 0.	0.	4.13E-04	0.	0.	0.	1.31E-01	1.37E-01	1.79E 00	4.84E-01	2.49E 00
31 7.70 0.	0.	3.69E-04	0.	0.	0.	1.32E-01	1.43E-01	1.79E 00	4.84E-01	2.49E 00
32 7.60 0.	0.	3.55E-04	0.	1.66E-08	0.	1.33E-01	1.49E-01	1.79E 00	4.85E-01	2.49E 00
33 7.50 0.	0.	3.34E-04	0.	5.19E-08	0.	1.33E-01	1.55E-01	1.79E 00	4.85E-01	2.49E 00
34 7.40 0.	0.	3.04E-04	0.	4.83E-07	0.	1.34E-01	1.61E-01	1.79E 00	4.85E-01	2.49E 00
35 7.30 0.	0.	2.93E-04	0.	1.81E-06	0.	1.35E-01	1.68E-01	1.79E 00	4.85E-01	2.49E 00
36 7.20 0.	0.	2.68E-04	0.	5.08E-06	0.	1.36E-01	1.75E-01	1.79E 00	4.86E-01	2.49E 00
37 7.10 0.	0.	2.61E-04	0.	1.61E-05	0.	1.37E-01	1.83E-01	1.79E 00	4.86E-01	2.49E 00
38 7.00 0.	0.	2.43E-04	0.	3.02E-05	0.	1.38E-01	1.91E-01	1.79E 00	4.87E-01	2.49E 00
39 6.90 0.	0.	2.26E-04	0.	4.50E-05	0.	1.39E-01	1.99E-01	1.79E 00	4.87E-01	2.49E 00
40 6.80 0.	0.	2.21E-04	0.	7.39E-05	0.	1.40E-01	2.08E-01	1.79E 00	4.87E-01	2.49E 00
41 6.70 0.	0.	1.97E-04	0.	7.08E-05	0.	1.41E-01	2.18E-01	1.79E 00	4.88E-01	2.49E 00
42 6.60 0.	0.	1.80E-04	0.	6.21E-05	0.	1.42E-01	2.28E-01	1.79E 00	4.89E-01	2.49E 00
43 6.50 0.	0.	1.46E-04	0.	8.69E-05	0.	1.43E-01	2.39E-01	1.79E 00	4.90E-01	2.49E 00
44 6.40 0.	0.	1.04E-04	0.	2.61E-07	0.	1.44E-01	2.50E-01	1.79E 00	4.91E-01	2.49E 00
45 6.30 0.	0.	6.66E-05	0.	1.25E-06	0.	1.46E-01	2.62E-01	1.79E 00	4.92E-01	2.49E 00
46 6.20 0.	0.	3.79E-05	0.	1.81E-06	0.	1.47E-01	2.76E-01	1.79E 00	4.93E-01	2.49E 00
47 6.10 0.	0.	1.82E-05	0.	5.23E-06	0.	1.48E-01	2.90E-01	1.79E 00	4.93E-01	2.49E 00
48 6.00 0.	0.	4.71E-06	0.	5.15E-06	0.	1.49E-01	3.04E-01	1.79E 00	4.94E-01	2.49E 00
49 5.90 0.	0.	3.38E-07	0.	7.64E-06	0.	1.49E-01	3.20E-01	1.79E 00	4.97E-01	2.49E 00
50 5.80 0.	0.	8.57E-09	0.	1.08E-05	0.	1.47E-01	3.38E-01	1.79E 00	5.10E-01	2.49E 00
51 5.70 0.	0.	0.	0.	1.29E-05	0.	1.38E-01	3.56E-01	1.79E 00	5.14E-01	2.49E 00

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES F.) 2200C. DENSITY (GM/CC) 1.293E-03 (1.0E 00 NORMAL)

PHOTON 02 S-R	N2	N2	N2+	NO	NO	GAMMA	VIB-ROT	NO	NO	2	PHOTO-DET (IONS)	FREE-FREE	N	O	TOTAL AIR
ENERGY	1ST POS.	2ND POS.	1ST NEG.	BETA	BETA								P.E.	P.E.	
52	5.60	8.58E-14	0.	0.	0.	1.13E-05	7.26E-05	0.	0.	0.	1.28E-01	3.76E-01	9.63E-01	5.18E-01	1.98E 00
53	5.50	0.	0.	0.	0.	1.38E-05	6.71E-05	0.	0.	0.	1.29E-01	3.97E-01	9.85E-01	5.23E-01	2.03E 00
54	5.40	0.	0.	0.	0.	1.30E-05	5.64E-05	0.	0.	0.	1.29E-01	4.19E-01	1.01E 00	5.29E-01	2.09E 00
55	5.30	0.	0.	0.	0.	1.33E-05	6.96E-05	0.	0.	0.	1.30E-01	4.44E-01	1.04E 00	5.36E-01	2.15E 00
56	5.20	0.	0.	0.	0.	1.44E-05	5.54E-05	0.	0.	0.	1.31E-01	4.70E-01	1.07E 00	5.44E-01	2.21E 00
57	5.10	0.	0.	0.	0.	1.45E-05	7.04E-05	0.	0.	0.	1.32E-01	4.99E-01	1.10E 00	5.53E-01	2.28E 00
58	5.00	1.21E-06	0.	0.	0.	1.33E-05	6.76E-05	0.	0.	0.	1.33E-01	5.30E-01	1.13E 00	5.61E-01	2.36E 00
59	4.90	3.01E-06	0.	0.	0.	1.50E-05	7.49E-05	0.	0.	0.	1.34E-01	5.63E-01	1.17E 00	5.71E-01	2.44E 00
60	4.80	5.72E-06	0.	0.	0.	1.62E-05	7.08E-05	0.	0.	0.	1.36E-01	6.00E-01	1.22E 00	5.84E-01	2.54E 00
61	4.70	7.86E-06	0.	0.	0.	1.64E-05	6.48E-05	0.	0.	0.	1.37E-01	6.39E-01	1.27E 00	6.00E-01	2.64E 00
62	4.60	1.10E-05	0.	0.	0.	1.70E-05	5.87E-05	0.	0.	0.	1.38E-01	6.82E-01	1.32E 00	6.16E-01	2.76E 00
63	4.50	1.17E-05	0.	0.	0.	1.58E-05	4.44E-05	0.	0.	0.	1.39E-01	7.29E-01	1.39E 00	6.33E-01	2.89E 00
64	4.40	1.27E-05	0.	0.	0.	1.60E-05	3.02E-05	0.	0.	0.	1.40E-01	7.81E-01	1.46E 00	6.50E-01	3.03E 00
65	4.30	1.22E-05	0.	0.	0.	1.55E-05	1.92E-05	0.	0.	0.	1.41E-01	8.37E-01	1.54E 00	6.69E-01	3.19E 00
66	4.20	1.15E-05	0.	0.	0.	1.63E-05	1.31E-05	0.	0.	0.	1.42E-01	8.99E-01	1.62E 00	6.87E-01	3.35E 00
67	4.10	1.04E-05	0.	0.	0.	1.62E-05	3.73E-05	0.	0.	0.	1.43E-01	9.67E-01	1.70E 00	7.06E-01	3.50E 00
68	4.00	1.02E-05	0.	0.	0.	1.09E-03	0.	0.	0.	0.	1.43E-01	1.04E 00	1.78E 00	7.26E-01	3.62E 00
69	3.90	8.79E-06	0.	0.	0.	5.22E-04	2.02E-04	0.	0.	0.	1.43E-01	1.13E 00	1.77E 00	7.47E-01	3.75E 00
70	3.80	9.70E-06	0.	0.	0.	8.44E-04	7.75E-04	1.61E-05	0.	0.	1.42E-01	1.22E 00	1.79E 00	7.69E-01	3.89E 00
71	3.70	8.81E-06	0.	0.	0.	8.50E-04	3.79E-04	1.41E-05	0.	0.	1.40E-01	1.32E 00	1.51E 00	7.94E-01	4.04E 00
72	3.60	8.04E-06	0.	0.	0.	6.36E-04	1.90E-03	1.52E-05	0.	0.	1.31E-01	1.44E 00	1.63E 00	8.21E-01	4.20E 00
73	3.50	7.61E-06	0.	0.	0.	8.21E-04	3.29E-03	1.23E-05	0.	0.	1.20E-01	1.57E 00	1.74E 00	8.49E-01	4.37E 00
74	3.40	7.10E-06	0.	0.	0.	5.46E-04	5.76E-04	1.39E-05	0.	0.	6.93E-02	1.71E 00	1.93E 00	8.78E-01	4.54E 00
75	3.30	5.73E-06	0.	0.	0.	5.58E-04	2.07E-03	1.13E-05	0.	0.	6.94E-02	1.88E 00	2.12E 00	9.07E-01	4.72E 00
76	3.20	5.06E-06	0.	0.	0.	3.75E-04	3.14E-03	1.20E-05	0.	0.	6.95E-02	2.06E 00	2.32E 00	9.36E-01	4.90E 00
77	3.10	4.94E-06	0.	0.	0.	2.95E-04	9.16E-04	1.15E-05	0.	0.	6.96E-02	2.27E 00	2.52E 00	9.65E-01	5.08E 00
78	3.00	4.50E-06	0.	0.	0.	1.84E-04	1.95E-03	1.10E-05	0.	0.	6.98E-02	2.51E 00	2.72E 00	9.94E-01	5.26E 00
79	2.90	3.86E-06	0.	0.	0.	1.17E-04	1.05E-03	8.65E-06	0.	0.	6.99E-02	2.78E 00	2.95E 00	1.02E 00	5.44E 00
80	2.80	4.07E-06	0.	0.	0.	5.63E-05	7.53E-04	6.21E-06	0.	0.	7.00E-02	3.09E 00	3.21E 00	1.10E 00	5.62E 00
81	2.70	2.69E-06	0.	0.	0.	2.66E-05	9.15E-04	3.51E-06	0.	0.	7.00E-02	3.46E 00	3.49E 00	1.18E 00	5.80E 00
82	2.60	1.31E-06	0.	0.	0.	1.27E-05	9.78E-05	1.59E-06	0.	0.	7.00E-02	3.88E 00	3.79E 00	1.26E 00	6.00E 00
83	2.50	9.31E-08	0.	0.	0.	1.31E-06	9.62E-05	3.86E-07	0.	0.	7.00E-02	4.38E 00	4.32E 00	1.34E 00	6.18E 00
84	2.40	0.	0.	0.	0.	5.66E-05	0.	0.	0.	0.	7.00E-02	4.96E 00	5.03E 00	1.42E 00	6.36E 00
85	2.30	0.	0.	0.	0.	1.62E-04	0.	0.	0.	0.	6.95E-02	5.65E 00	5.4E 00	1.50E 00	6.54E 00
86	2.20	0.	0.	0.	0.	4.40E-04	0.	0.	0.	0.	6.92E-02	6.46E 00	5.37E 00	1.58E 00	6.72E 00
87	2.10	0.	0.	0.	0.	4.41E-04	0.	0.	0.	0.	6.89E-02	7.45E 00	6.24E 00	1.66E 00	6.90E 00
88	2.00	0.	0.	0.	0.	8.90E-04	0.	0.	0.	0.	6.87E-02	8.64E 00	7.13E 00	1.74E 00	7.08E 00
89	1.90	0.	0.	0.	0.	1.03E-03	0.	0.	0.	0.	6.42E-02	1.01E 00	8.20E 00	1.82E 00	7.26E 00
90	1.80	0.	0.	0.	0.	8.91E-04	0.	0.	0.	0.	6.14E-02	1.20E 00	9.84E 00	2.00E 00	7.44E 00
91	1.70	0.	0.	0.	0.	1.00E-03	0.	0.	0.	0.	5.78E-02	1.43E 00	1.18E 00	2.18E 00	7.62E 00
92	1.60	0.	0.	0.	0.	7.62E-04	0.	0.	0.	0.	4.89E-02	1.72E 00	1.39E 00	2.36E 00	7.80E 00
93	1.50	0.	0.	0.	0.	8.62E-04	0.	0.	0.	0.	2.22E-02	2.10E 00	1.81E 00	2.54E 00	8.00E 00
94	1.40	0.	0.	0.	0.	8.46E-04	0.	0.	0.	0.	0.	2.59E 00	2.27E 00	2.72E 00	8.18E 00
95	1.30	0.	0.	0.	0.	6.48E-04	0.	0.	0.	0.	0.	3.25E 00	3.06E 00	3.00E 00	8.36E 00
96	1.20	0.	0.	0.	0.	6.18E-04	0.	0.	0.	0.	0.	4.15E 00	4.44E 00	4.15E 00	8.54E 00
97	1.10	0.	0.	0.	0.	6.03E-04	0.	0.	0.	0.	0.	5.43E 00	5.44E 00	5.43E 00	8.72E 00
98	1.00	0.	0.	0.	0.	5.55E-04	0.	0.	0.	0.	0.	7.29E 00	7.15E 00	7.29E 00	8.90E 00
99	0.90	0.	0.	0.	0.	4.55E-04	0.	0.	0.	0.	0.	1.01E 00	9.93E 00	9.93E 00	9.10E 00
100	0.80	0.	0.	0.	0.	2.13E-04	0.	0.	0.	0.	0.	1.45E 00	1.45E 00	1.45E 00	9.28E 00
101	0.70	0.	0.	0.	0.	4.90E-05	0.	0.	0.	0.	0.	2.20E 00	2.36E 00	2.20E 00	9.46E 00
102	0.60	0.	0.	0.	0.	1.14E-05	0.	0.	0.	0.	0.	3.56E 00	3.56E 00	3.56E 00	9.64E 00

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 22000. DENSITY (GM/CC) 1.293E-04 (1.0E-01 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 6-H NO. 1	NO BETA	NO GAMMA	NO 2	Q- PHOTG-DET (IONS)	FREE-FREE P.E.	N P.E.	U P.F.	TOTAL AIR
1	10.70 0.	0.	2.90E-06	0.	0.	0.	1.25E-03	2.30E-03	9.34E-01	2.68E-02	9.65E-01
2	10.60 0.	0.	2.67E-06	0.	0.	0.	1.25E-03	2.37E-03	7.44E-02	2.66E-02	1.05E-01
3	10.50 0.	0.	2.73E-06	0.	0.	0.	1.25E-03	2.44E-03	7.47E-02	2.65E-02	1.05E-01
4	10.40 0.	0.	2.62E-06	0.	0.	0.	1.25E-03	2.51E-03	7.49E-02	2.64E-02	1.05E-01
5	10.30 0.	0.	2.32E-06	0.	0.	0.	1.26E-03	2.58E-03	7.51E-02	2.63E-02	1.05E-01
6	10.20 0.	0.	2.42E-06	0.	0.	0.	1.26E-03	2.66E-03	7.53E-02	2.62E-02	1.05E-01
7	10.10 0.	0.	2.30E-06	0.	0.	0.	1.26E-03	2.74E-03	7.51E-02	2.60E-02	1.05E-01
8	10.00 0.	0.	2.06E-06	0.	0.	0.	1.26E-03	2.83E-03	7.45E-02	2.59E-02	1.04E-01
9	9.90 0.	0.	2.12E-06	0.	0.	0.	1.26E-03	2.91E-03	7.46E-02	2.58E-02	1.05E-01
10	9.80 0.	0.	2.02E-06	0.	0.	0.	1.26E-03	3.01E-03	7.48E-02	2.57E-02	1.05E-01
11	9.70 0.	0.	1.78E-06	0.	0.	0.	1.27E-03	3.10E-03	7.50E-02	2.56E-02	1.05E-01
12	9.60 0.	0.	1.93E-06	0.	0.	0.	1.27E-03	3.20E-03	7.52E-02	2.54E-02	1.05E-01
13	9.50 0.	0.	1.68E-06	0.	0.	0.	1.27E-03	3.30E-03	7.54E-02	2.53E-02	1.05E-01
14	9.40 0.	0.	1.62E-06	0.	0.	0.	1.28E-03	3.41E-03	7.56E-02	2.52E-02	1.06E-01
15	9.30 0.	0.	1.66E-06	0.	0.	0.	1.28E-03	3.52E-03	7.59E-02	2.51E-02	1.06E-01
16	9.20 0.	0.	1.41E-06	0.	0.	0.	1.29E-03	3.64E-03	7.61E-02	2.50E-02	1.06E-01
17	9.10 0.	0.	1.46E-06	0.	0.	0.	1.29E-03	3.76E-03	3.11E-02	2.47E-02	6.10E-02
18	9.00 0.	0.	1.35E-06	0.	0.	0.	1.29E-03	3.89E-03	3.12E-02	2.46E-02	6.11E-02
19	8.90 0.	0.	1.27E-06	0.	0.	0.	1.30E-03	4.03E-03	3.13E-02	2.45E-02	6.13E-02
20	8.80 0.	0.	1.25E-06	0.	0.	0.	1.30E-03	4.17E-03	3.14E-02	2.44E-02	6.14E-02
21	8.70 0.	0.	1.11E-06	0.	0.	0.	1.31E-03	4.31E-03	3.14E-02	2.43E-02	6.15E-02
22	8.60 0.	0.	1.15E-06	0.	0.	0.	1.31E-03	4.47E-03	3.14E-02	2.42E-02	6.17E-02
23	8.50 0.	0.	1.03E-06	0.	0.	0.	1.32E-03	4.63E-03	3.14E-02	2.41E-02	6.19E-02
24	8.40 0.	0.	1.03E-06	0.	0.	0.	1.32E-03	4.80E-03	3.17E-02	2.41E-02	6.22E-02
25	8.30 0.	0.	8.94E-07	0.	0.	0.	1.33E-03	4.97E-03	3.19E-02	2.41E-02	6.26E-02
26	8.20 0.	0.	9.11E-07	0.	0.	0.	1.34E-03	5.16E-03	3.20E-02	2.41E-02	6.30E-02
27	8.10 0.	0.	8.02E-07	0.	0.	0.	1.35E-03	5.36E-03	3.22E-02	2.41E-02	6.34E-02
28	8.00 0.	0.	8.14E-07	0.	0.	0.	1.36E-03	5.56E-03	3.24E-02	2.41E-02	6.39E-02
29	7.90 0.	0.	7.13E-07	0.	0.	0.	1.37E-03	5.78E-03	3.27E-02	2.41E-02	6.44E-02
30	7.80 0.	0.	7.47E-07	0.	0.	0.	1.37E-03	6.00E-03	3.29E-02	2.41E-02	6.49E-02
31	7.70 0.	0.	6.67E-07	0.	0.	0.	1.37E-03	6.24E-03	3.32E-02	2.41E-02	6.55E-02
32	7.60 0.	0.	6.42E-07	0.	3.52E-11	0.	1.38E-03	6.49E-03	3.35E-02	2.41E-02	6.59E-02
33	7.50 0.	0.	6.05E-07	0.	1.10E-10	0.	1.39E-03	6.76E-03	3.36E-02	2.42E-02	6.64E-02
34	7.40 0.	0.	5.50E-07	0.	1.02E-09	0.	1.39E-03	7.04E-03	3.38E-02	2.42E-02	6.70E-02
35	7.30 0.	0.	5.29E-07	0.	3.82E-09	0.	1.40E-03	7.34E-03	3.41E-02	2.42E-02	6.76E-02
36	7.20 0.	0.	4.85E-07	0.	1.08E-08	0.	1.41E-03	7.65E-03	3.44E-02	2.42E-02	6.83E-02
37	7.10 0.	0.	4.72E-07	0.	3.46E-08	0.	1.42E-03	7.98E-03	3.47E-02	2.42E-02	6.89E-02
38	7.00 0.	0.	4.40E-07	0.	6.38E-08	0.	1.43E-03	8.33E-03	3.49E-02	2.42E-02	6.96E-02
39	6.90 0.	0.	4.09E-07	0.	9.52E-08	0.	1.45E-03	8.70E-03	3.52E-02	2.42E-02	7.03E-02
40	6.80 0.	0.	4.00E-07	0.	1.56E-07	0.	1.46E-03	9.09E-03	3.55E-02	2.42E-02	7.11E-02
41	6.70 0.	0.	3.56E-07	0.	1.50E-07	0.	1.47E-03	9.51E-03	3.58E-02	2.43E-02	7.19E-02
42	6.60 0.	0.	3.25E-07	0.	1.32E-07	0.	1.48E-03	9.95E-03	3.62E-02	2.44E-02	7.29E-02
43	6.50 0.	0.	2.64E-07	0.	1.84E-07	0.	1.49E-03	1.04E-02	3.65E-02	2.44E-02	7.39E-02
44	6.40 0.	0.	1.87E-07	5.53E-10	1.67E-07	0.	1.50E-03	1.09E-02	3.70E-02	2.45E-02	7.49E-02
45	6.30 0.	0.	1.21E-07	2.65E-09	1.28E-07	0.	1.51E-03	1.15E-02	3.74E-02	2.46E-02	7.61E-02
46	6.20 0.	0.	6.85E-08	3.83E-09	1.71E-07	0.	1.53E-03	1.20E-02	3.79E-02	2.47E-02	7.74E-02
47	6.10 0.	0.	3.30E-08	1.11E-08	2.04E-07	0.	1.54E-03	1.26E-02	3.83E-02	2.49E-02	7.88E-02
48	6.00 0.	0.	8.51E-09	1.09E-08	1.05E-07	0.	1.55E-03	1.33E-02	3.88E-02	2.51E-02	8.03E-02
49	5.90 0.	0.	6.11E-10	1.62E-08	1.01E-07	0.	1.55E-03	1.40E-02	3.95E-02	2.53E-02	8.18E-02
50	5.80 0.	0.	1.55E-11	2.24E-08	1.07E-07	0.	1.53E-03	1.47E-02	4.01E-02	2.54E-02	8.33E-02
51	5.70 0.	0.	0.	2.73E-08	1.20E-07	0.	1.43E-03	1.55E-02	4.07E-02	2.56E-02	8.33E-02

# ADSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 22000. DENSITY (GM/CC) 1.293E-04 (1.0E-01 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N2 BETA	N2 GAMMA	N2 VIB-ROT	N2 NO	0- PHOTO-DET	FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
52	5.60	2.13E-16	0.	2.39E-08	1.54E-07	0.	0.	1.33E-03	1.64E-02	4.14E-02	2.58E-02	8.50E-02
53	5.50	0.	0.	2.92E-08	1.42E-07	0.	0.	1.34E-03	1.73E-02	4.24E-02	2.60E-02	8.71E-02
54	5.40	0.	0.	2.74E-08	1.19E-07	0.	0.	1.35E-03	1.83E-02	4.35E-02	2.63E-02	8.95E-02
55	5.30	0.	0.	2.81E-08	1.47E-07	0.	0.	1.36E-03	1.94E-02	4.47E-02	2.67E-02	9.22E-02
56	5.20	0.	0.	3.05E-08	1.17E-07	0.	0.	1.76E-03	2.05E-02	4.55E-02	2.71E-02	9.45E-02
57	5.10	0.	0.	3.06E-08	1.49E-07	0.	0.	1.38E-03	2.18E-02	4.69E-02	2.75E-02	9.76E-02
58	5.00	3.01E-09	0.	2.82E-08	1.43E-07	0.	0.	1.39E-03	2.31E-02	4.84E-02	2.80E-02	1.01E-01
59	4.90	7.44E-09	0.	3.17E-08	1.58E-07	0.	0.	1.40E-03	2.46E-02	5.01E-02	2.85E-02	1.05E-01
60	4.80	1.42E-08	0.	3.43E-08	1.50E-07	0.	0.	1.41E-03	2.62E-02	5.20E-02	2.91E-02	1.09E-01
61	4.70	1.95E-08	0.	3.47E-08	1.37E-07	0.	0.	1.42E-03	2.79E-02	5.40E-02	2.99E-02	1.13E-01
62	4.60	2.73E-08	0.	3.60E-08	1.24E-07	0.	0.	1.43E-03	2.98E-02	5.63E-02	3.07E-02	1.18E-01
63	4.50	2.91E-08	0.	3.34E-08	9.39E-08	0.	0.	1.45E-03	3.18E-02	5.93E-02	3.15E-02	1.24E-01
64	4.40	3.15E-08	0.	3.36E-08	6.39E-08	0.	0.	1.46E-03	3.41E-02	6.24E-02	3.24E-02	1.30E-01
65	4.30	3.02E-08	0.	3.27E-08	4.07E-08	0.	0.	1.47E-03	3.65E-02	6.58E-02	3.33E-02	1.37E-01
66	4.20	2.85E-08	0.	3.45E-08	2.78E-08	0.	0.	1.48E-03	3.92E-02	6.92E-02	3.42E-02	1.44E-01
67	4.10	2.71E-08	0.	3.43E-08	7.89E-09	0.	0.	1.49E-03	4.22E-02	7.27E-02	3.41E-02	1.50E-01
68	4.00	2.53E-08	0.	3.34E-08	5.89E-09	0.	0.	1.49E-03	4.55E-02	7.62E-02	1.74E-02	1.41E-01
69	3.90	2.18E-08	0.	3.14E-08	2.17E-09	0.	0.	1.49E-03	4.91E-02	7.58E-02	1.79E-02	1.44E-01
70	3.80	2.41E-08	0.	1.53E-06	6.70E-06	0.	0.	1.48E-03	5.32E-02	7.65E-02	1.87E-02	1.50E-01
71	3.70	2.18E-08	0.	1.54E-06	3.28E-06	0.	0.	1.46E-03	5.77E-02	6.47E-02	2.04E-02	1.44E-01
72	3.60	1.99E-08	0.	1.15E-06	1.65E-05	0.	0.	1.34E-03	6.28E-02	6.98E-02	2.23E-02	1.56E-01
73	3.50	1.89E-08	0.	1.48E-06	2.85E-05	0.	0.	1.25E-03	6.84E-02	7.44E-02	2.44E-02	1.68E-01
74	3.40	1.76E-08	0.	9.88E-07	4.98E-06	0.	0.	7.20E-04	7.47E-02	8.24E-02	2.68E-02	1.85E-01
75	3.30	1.42E-08	0.	1.01E-06	1.79E-05	0.	0.	7.22E-04	8.18E-02	9.07E-02	2.92E-02	2.03E-01
76	3.20	1.26E-08	0.	6.79E-07	2.72E-05	0.	0.	7.23E-04	8.99E-02	9.91E-02	3.18E-02	2.22E-01
77	3.10	1.23E-08	0.	5.34E-07	7.92E-06	0.	0.	7.24E-04	9.90E-02	1.08E-01	3.44E-02	2.42E-01
78	3.00	1.12E-08	0.	3.32E-07	1.69E-05	0.	0.	7.26E-04	1.09E-01	1.16E-01	3.70E-02	2.64E-01
79	2.90	9.56E-09	0.	2.11E-07	9.08E-06	0.	0.	7.27E-04	1.21E-01	1.26E-01	3.99E-02	2.88E-01
80	2.80	1.01E-08	0.	1.02E-07	6.31E-06	0.	0.	7.29E-04	1.35E-01	1.37E-01	4.32E-02	3.16E-01
81	2.70	6.66E-09	0.	4.81E-08	7.92E-06	0.	0.	7.29E-04	1.51E-01	1.49E-01	4.69E-02	3.48E-01
82	2.60	3.25E-09	0.	2.30E-08	8.46E-07	0.	0.	7.29E-04	1.69E-01	1.61E-01	5.06E-02	3.82E-01
83	2.50	2.31E-10	0.	2.36E-09	8.32E-07	0.	0.	7.29E-04	1.91E-01	1.84E-01	5.33E-02	4.09E-01
84	2.40	0.	0.	1.02E-07	0.	0.	0.	7.29E-04	2.16E-01	2.14E-01	5.66E-02	4.70E-01
85	2.30	0.	0.	2.93E-07	0.	0.	0.	7.23E-04	2.46E-01	1.93E-01	4.59E-02	4.87E-01
86	2.20	0.	0.	7.94E-07	0.	0.	0.	7.20E-04	2.82E-01	2.29E-01	5.47E-02	5.66E-01
87	2.10	0.	0.	7.97E-07	0.	0.	0.	7.17E-04	3.25E-01	2.66E-01	6.34E-02	6.55E-01
88	2.00	0.	0.	1.61E-06	0.	0.	0.	6.94E-04	3.77E-01	3.04E-01	7.23E-02	7.54E-01
89	1.90	0.	0.	1.86E-06	0.	0.	0.	6.67E-04	4.42E-01	3.49E-01	8.47E-02	8.76E-01
90	1.80	0.	0.	1.61E-06	0.	0.	0.	6.38E-04	5.22E-01	4.19E-01	1.03E-01	1.05E-00
91	1.70	0.	0.	1.81E-06	0.	0.	0.	6.01E-04	6.23E-01	5.04E-01	1.26E-01	1.25E-00
92	1.60	0.	0.	1.39E-06	0.	0.	0.	5.09E-04	7.52E-01	5.90E-01	1.48E-01	1.49E-00
93	1.50	0.	0.	1.56E-06	0.	0.	0.	2.31E-04	9.16E-01	7.69E-01	1.80E-01	1.87E-00
94	1.40	0.	0.	1.53E-06	0.	0.	0.	0.	1.13E-00	9.64E-01	2.15E-01	2.31E-00
95	1.30	0.	0.	1.17E-06	0.	0.	0.	0.	1.42E-00	1.30E-00	2.83E-01	3.00E-00
96	1.20	0.	0.	1.12E-06	0.	0.	0.	0.	1.81E-00	1.46E-00	3.57E-01	3.56E-00
97	1.10	0.	0.	1.09E-06	0.	0.	0.	0.	2.37E-00	1.80E-00	4.57E-01	4.53E-00
98	1.00	0.	0.	1.00E-06	0.	0.	0.	0.	3.18E-00	2.19E-00	6.08E-01	5.78E-00
99	0.90	0.	0.	8.22E-07	0.	0.	0.	0.	4.41E-00	2.52E-00	8.78E-01	7.41E-00
100	0.80	0.	0.	3.86E-07	0.	0.	0.	0.	6.34E-00	2.90E-00	1.14E-00	9.79E-00
101	0.70	0.	0.	8.86E-08	0.	0.	0.	0.	9.61E-00	3.13E-00	1.49E-00	1.33E-01
102	0.60	0.	0.	2.06E-08	0.	0.	0.	0.	1.55E-01	3.50E-00	6.15E-01	1.96E-01



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 22000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON U2 S-R	O2 S-R	N2 B-H	NO BETA	NU GAMMA	NO	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
ENERGY E.V.	CONT.	NO. 1								
1 10.70 5.	0.	8.89E-10	0.	0.	0.	3.28E-06	4.15E-05	1.65E-02	5.25E-04	1.70E-02
2 10.60 9.	0.	8.20E-10	0.	0.	0.	3.28E-06	4.27E-05	1.42E-03	5.23E-04	1.99E-03
3 10.50 0.	0.	8.35E-10	0.	0.	0.	3.28E-06	4.39E-05	1.43E-03	5.20E-04	1.99E-03
4 10.40 0.	0.	8.03E-10	0.	0.	0.	3.29E-06	4.52E-05	1.43E-03	5.18E-04	2.00E-03
5 10.30 9.	0.	7.11E-10	0.	0.	0.	3.29E-06	4.66E-05	1.44E-03	5.16E-04	2.00E-03
6 10.20 0.	0.	7.42E-10	0.	0.	0.	3.30E-06	4.80E-05	1.44E-03	5.13E-04	2.01E-03
7 10.10 0.	0.	7.05E-10	0.	0.	0.	3.30E-06	4.94E-05	1.44E-03	5.11E-04	2.01E-03
8 10.00 0.	0.	6.31E-10	0.	0.	0.	3.31E-06	5.09E-05	1.34E-03	5.08E-04	1.90E-03
9 9.90 0.	0.	6.51E-10	0.	0.	0.	3.31E-06	5.25E-05	1.34E-03	5.06E-04	1.90E-03
10 9.80 0.	0.	6.20E-10	0.	0.	0.	3.32E-06	5.42E-05	1.35E-03	5.04E-04	1.91E-03
11 9.70 0.	0.	5.46E-10	0.	0.	0.	3.32E-06	5.59E-05	1.35E-03	5.01E-04	1.91E-03
12 9.60 0.	0.	5.92E-10	0.	0.	0.	3.33E-06	5.77E-05	1.35E-03	4.99E-04	1.91E-03
13 9.50 0.	0.	5.16E-10	0.	0.	0.	3.34E-06	5.95E-05	1.36E-03	4.97E-04	1.92E-03
14 9.40 0.	0.	4.96E-10	0.	0.	0.	3.35E-06	6.15E-05	1.36E-03	4.94E-04	1.92E-03
15 9.30 0.	0.	5.10E-10	0.	0.	0.	3.36E-06	6.35E-05	1.37E-03	4.92E-04	1.93E-03
16 9.20 0.	0.	4.33E-10	0.	0.	0.	3.37E-06	6.56E-05	1.37E-03	4.90E-04	1.93E-03
17 9.10 0.	0.	4.47E-10	0.	0.	0.	3.38E-06	6.78E-05	1.38E-03	4.88E-04	1.94E-03
18 9.00 0.	0.	4.13E-10	0.	0.	0.	3.40E-06	7.01E-05	1.38E-03	4.85E-04	1.95E-03
19 8.90 0.	0.	3.88E-10	0.	0.	0.	3.41E-06	7.25E-05	1.39E-03	4.83E-04	1.95E-03
20 8.80 0.	0.	3.84E-10	0.	0.	0.	3.42E-06	7.51E-05	1.39E-03	4.81E-04	1.95E-03
21 8.70 0.	0.	3.40E-10	0.	0.	0.	3.43E-06	7.77E-05	1.39E-03	4.79E-04	1.95E-03
22 8.60 0.	0.	3.53E-10	0.	0.	0.	3.45E-06	8.05E-05	1.39E-03	4.77E-04	1.95E-03
23 8.50 0.	0.	3.16E-10	0.	0.	0.	3.46E-06	8.34E-05	1.39E-03	4.75E-04	1.95E-03
24 8.40 0.	0.	3.16E-10	0.	0.	0.	3.48E-06	8.64E-05	1.40E-03	4.73E-04	1.95E-03
25 8.30 0.	0.	2.74E-10	0.	0.	0.	3.49E-06	8.96E-05	1.40E-03	4.72E-04	1.95E-03
26 8.20 0.	0.	2.79E-10	0.	0.	0.	3.51E-06	9.30E-05	1.40E-03	4.73E-04	1.95E-03
27 8.10 0.	0.	2.46E-10	0.	0.	0.	3.53E-06	9.65E-05	1.42E-03	4.73E-04	1.95E-03
28 8.00 0.	0.	2.50E-10	0.	0.	0.	3.55E-06	1.00E-04	1.42E-03	4.72E-04	1.95E-03
29 7.90 0.	0.	2.19E-10	0.	0.	0.	3.57E-06	1.04E-04	1.42E-03	4.73E-04	1.95E-03
30 7.80 0.	0.	2.29E-10	0.	0.	0.	3.58E-06	1.08E-04	1.42E-03	4.73E-04	1.95E-03
31 7.70 0.	0.	2.05E-10	0.	0.	0.	3.60E-06	1.12E-04	1.42E-03	4.73E-04	1.95E-03
32 7.60 0.	0.	1.97E-10	0.	1.21E-14	0.	3.62E-06	1.17E-04	1.42E-03	4.74E-04	1.95E-03
33 7.50 0.	0.	1.85E-10	0.	3.77E-14	0.	3.64E-06	1.22E-04	1.42E-03	4.74E-04	1.95E-03
34 7.40 0.	0.	1.69E-10	0.	3.50E-13	0.	3.66E-06	1.27E-04	1.42E-03	4.74E-04	1.95E-03
35 7.30 0.	0.	1.62E-10	0.	1.31E-12	0.	3.68E-06	1.32E-04	1.42E-03	4.74E-04	1.95E-03
36 7.20 0.	0.	1.49E-10	0.	3.69E-12	0.	3.70E-06	1.38E-04	1.42E-03	4.75E-04	1.95E-03
37 7.10 0.	0.	1.45E-10	0.	1.16E-11	0.	3.73E-06	1.44E-04	1.42E-03	4.75E-04	1.95E-03
38 7.00 5.51E-14	0.	1.35E-10	0.	2.19E-11	0.	3.76E-06	1.50E-04	1.42E-03	4.75E-04	1.95E-03
39 6.90 1.09E-13	0.	1.25E-10	0.	3.26E-11	0.	3.79E-06	1.57E-04	1.42E-03	4.76E-04	1.95E-03
40 6.80 9.44E-14	0.	1.23E-10	0.	5.36E-11	0.	3.82E-06	1.64E-04	1.42E-03	4.76E-04	1.95E-03
41 6.70 6.95E-14	0.	1.09E-10	0.	5.14E-11	0.	3.85E-06	1.71E-04	1.42E-03	4.77E-04	1.95E-03
42 6.60 4.24E-14	0.	9.95E-11	0.	4.51E-11	0.	3.88E-06	1.79E-04	1.42E-03	4.78E-04	1.95E-03
43 6.50 2.49E-14	0.	8.09E-11	0.	6.30E-11	0.	3.91E-06	1.88E-04	1.42E-03	4.80E-04	1.95E-03
44 6.40 1.45E-14	0.	5.75E-11	1.90E-13	5.73E-12	0.	3.94E-06	1.97E-04	1.42E-03	4.81E-04	1.95E-03
45 6.30 8.53E-15	0.	3.69E-11	9.09E-13	4.40E-11	0.	3.97E-06	2.06E-04	1.42E-03	4.83E-04	1.95E-03
46 6.20 3.91E-15	0.	2.10E-11	1.31E-12	5.86E-11	0.	4.00E-06	2.17E-04	1.42E-03	4.86E-04	1.95E-03
47 6.10 1.82E-15	0.	1.01E-11	3.79E-12	7.00E-11	0.	4.03E-06	2.28E-04	1.42E-03	4.90E-04	1.95E-03
48 6.00 7.66E-16	0.	2.61E-12	3.74E-12	3.60E-11	0.	4.06E-06	2.40E-04	1.42E-03	4.93E-04	1.95E-03
49 5.90 1.91E-16	0.	1.87E-13	7.82E-12	3.66E-11	0.	4.00E-06	2.66E-04	1.42E-03	5.00E-04	1.95E-03
50 5.80 2.44E-17	0.	0.	9.34E-12	4.10E-11	0.	3.76E-06	2.80E-04	1.42E-03	5.04E-04	1.95E-03
51 5.70 1.84E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

## ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 22000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTO. 02 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N	O P.E.	TOTAL AIR	
52	5.60	8.15E-20	0.	0.	8.19E-12	5.26E-11	0.	3.50E-06	2.95E-04	7.94E-04	5.08E-04	1.60E-03
53	5.50	0.	0.	0.	1.00E-11	4.87E-11	0.	3.51E-06	3.12E-04	8.13E-04	5.13E-04	1.64E-03
54	5.40	0.	0.	0.	9.40E-12	4.09E-11	0.	3.53E-06	3.30E-04	8.36E-04	5.19E-04	1.69E-03
55	5.30	0.	0.	0.	9.63E-12	5.05E-11	0.	3.56E-06	3.49E-04	8.60E-04	5.26E-04	1.74E-03
56	5.20	0.	0.	0.	1.05E-11	4.02E-11	0.	3.58E-06	3.70E-04	8.22E-04	5.34E-04	1.73E-03
57	5.10	0.	0.	0.	1.05E-11	5.11E-11	0.	3.61E-06	3.92E-04	8.48E-04	5.40E-04	1.78E-03
58	5.00	1.15E-12	0.	0.	9.68E-12	4.90E-11	0.	3.64E-06	4.17E-04	8.75E-04	5.48E-04	1.84E-03
59	4.90	2.85E-12	0.	0.	1.09E-11	5.43E-11	0.	3.67E-06	4.43E-04	9.07E-04	5.58E-04	1.91E-03
60	4.80	5.44E-12	0.	0.	1.18E-11	5.14E-11	0.	3.70E-06	4.72E-04	9.42E-04	5.70E-04	1.99E-03
61	4.70	7.47E-12	0.	0.	1.19E-11	4.70E-11	0.	3.73E-06	5.03E-04	9.79E-04	5.86E-04	2.07E-03
62	4.60	1.05E-11	0.	0.	1.23E-11	4.26E-11	0.	3.76E-06	5.37E-04	1.02E-03	6.02E-04	2.16E-03
63	4.50	1.11E-11	0.	1.36E-11	1.15E-11	3.22E-11	0.	3.79E-06	5.74E-04	1.08E-03	6.18E-04	2.27E-03
64	4.40	1.21E-11	0.	1.16E-11	1.16E-11	2.19E-11	0.	3.82E-06	6.14E-04	1.13E-03	6.35E-04	2.39E-03
65	4.30	1.16E-11	0.	1.12E-11	1.12E-11	1.40E-11	0.	3.85E-06	6.58E-04	1.20E-03	6.53E-04	2.51E-03
66	4.20	1.09E-11	0.	1.18E-11	9.54E-12	0.	0.	3.88E-06	7.07E-04	1.26E-03	6.71E-04	2.64E-03
67	4.10	1.04E-11	0.	1.17E-11	2.71E-12	0.	0.	3.90E-06	7.60E-04	1.32E-03	6.88E-04	2.75E-03
68	4.00	9.64E-12	0.	1.15E-11	2.02E-12	0.	0.	3.91E-06	8.19E-04	1.39E-03	7.05E-04	2.88E-03
69	3.90	8.35E-12	0.	1.08E-11	7.45E-13	0.	0.	3.90E-06	8.85E-04	1.48E-03	7.25E-04	2.99E-03
70	3.80	9.22E-12	0.	1.17E-11	0.	0.	0.	3.88E-06	9.58E-04	1.40E-03	7.48E-04	3.12E-03
71	3.70	8.36E-12	0.	1.02E-11	0.	0.	0.	3.82E-06	1.04E-03	1.20E-03	7.01E-04	3.26E-03
72	3.60	7.63E-12	0.	1.10E-11	0.	0.	0.	3.79E-06	1.13E-03	1.29E-03	7.28E-04	3.41E-03
73	3.50	7.23E-12	0.	8.91E-12	0.	0.	0.	3.78E-06	1.23E-03	1.37E-03	7.49E-04	3.57E-03
74	3.40	6.74E-12	0.	1.01E-11	0.	0.	0.	1.89E-06	1.35E-03	1.52E-03	7.82E-04	3.72E-03
75	3.30	5.44E-12	0.	8.19E-12	0.	0.	0.	1.89E-06	1.47E-03	1.64E-03	8.15E-04	3.87E-03
76	3.20	4.82E-12	0.	8.68E-12	0.	0.	0.	1.90E-06	1.62E-03	1.82E-03	8.58E-04	4.02E-03
77	3.10	4.69E-12	0.	8.34E-12	0.	0.	0.	1.90E-06	1.78E-03	1.97E-03	9.01E-04	4.17E-03
78	3.00	4.28E-12	0.	8.01E-12	0.	0.	0.	1.90E-06	1.97E-03	2.13E-03	9.54E-04	4.32E-03
79	2.90	3.66E-12	0.	6.47E-12	0.	0.	0.	1.91E-06	2.19E-03	2.30E-03	9.90E-04	4.47E-03
80	2.80	3.86E-12	0.	3.12E-11	1.49E-08	0.	0.	1.91E-06	2.43E-03	2.50E-03	1.07E-03	4.62E-03
81	2.70	2.55E-12	0.	1.47E-11	1.81E-08	2.55E-12	0.	1.91E-06	2.72E-03	2.72E-03	1.21E-03	4.77E-03
82	2.60	1.24E-12	0.	7.04E-12	1.93E-09	1.15E-12	0.	1.91E-06	3.05E-03	2.87E-03	1.36E-03	4.92E-03
83	2.50	8.84E-14	0.	7.24E-13	1.90E-09	2.80E-13	0.	1.91E-06	3.44E-03	3.27E-03	1.51E-03	5.07E-03
84	2.40	0.	3.14E-12	0.	1.41E-09	3.03E-14	0.	1.91E-06	3.90E-03	3.81E-03	1.66E-03	5.22E-03
85	2.30	0.	9.97E-11	0.	0.	0.	0.	1.90E-06	4.44E-03	4.35E-03	1.81E-03	5.37E-03
86	2.20	0.	2.44E-10	0.	0.	0.	0.	1.89E-06	5.08E-03	4.07E-03	1.07E-03	5.52E-03
87	2.10	0.	2.43E-10	0.	0.	0.	0.	1.88E-06	5.84E-03	4.74E-03	1.24E-03	5.67E-03
88	2.00	0.	4.93E-10	0.	0.	0.	0.	1.82E-06	6.80E-03	5.40E-03	1.42E-03	5.82E-03
89	1.90	0.	5.71E-10	0.	0.	0.	0.	1.75E-06	7.96E-03	6.20E-03	1.66E-03	5.97E-03
90	1.80	0.	4.94E-10	0.	0.	0.	0.	1.67E-06	9.41E-03	7.43E-03	2.03E-03	6.12E-03
91	1.70	0.	5.55E-10	0.	0.	0.	0.	1.58E-06	1.12E-02	8.93E-03	2.47E-03	6.27E-03
92	1.60	0.	4.22E-10	0.	0.	0.	0.	1.33E-06	1.33E-02	1.04E-02	2.91E-03	6.42E-03
93	1.50	0.	4.78E-10	0.	0.	0.	0.	6.07E-07	1.65E-02	1.36E-02	3.35E-03	6.57E-03
94	1.40	0.	4.69E-10	0.	0.	0.	0.	0.	2.04E-02	1.70E-02	4.22E-03	6.72E-03
95	1.30	0.	3.59E-10	0.	0.	0.	0.	0.	2.59E-02	2.23E-02	5.54E-03	6.87E-03
96	1.20	0.	3.42E-10	0.	0.	0.	0.	0.	3.26E-02	2.57E-02	6.30E-03	7.02E-03
97	1.10	0.	3.34E-10	0.	0.	0.	0.	0.	4.27E-02	3.16E-02	7.09E-03	7.17E-03
98	1.00	0.	3.07E-10	0.	0.	0.	0.	0.	5.73E-02	3.84E-02	7.94E-03	7.32E-03
99	0.90	0.	2.52E-10	0.	0.	0.	0.	0.	7.94E-02	4.42E-02	9.37E-03	7.47E-03
100	0.80	0.	1.18E-10	0.	0.	0.	0.	0.	1.14E-01	5.09E-02	1.07E-02	7.62E-03
101	0.70	0.	2.71E-11	0.	0.	0.	0.	0.	1.73E-01	5.49E-02	1.09E-02	7.77E-03
102	0.60	0.	6.31E-12	0.	0.	0.	0.	0.	2.80E-01	6.14E-02	1.20E-02	7.92E-03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		22000.		DENSITY (GM/CC) 1.293E-06		(10.0E-04 NORMAL)		O <sub>2</sub>		FREE-FREE		N		O		TOTAL AIR	
PHOTON O <sub>2</sub> S-R		O <sub>2</sub> S-R		NO <sub>2</sub> B-H		NO <sub>2</sub> B-H		NO <sub>2</sub> B-H		NO <sub>2</sub> B-H		NO <sub>2</sub> B-H		NO <sub>2</sub> B-H		NO <sub>2</sub> B-H	
ENERGY BANDS		CONT.		NO. 1		NO. 1		NO. 1		NO. 1		NO. 1		NO. 1		NO. 1	
E.V.																	
1	10.70	0.	0.	1.06E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.80	0.	0.	9.77E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.90	0.	0.	9.96E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	9.58E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	8.48E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	8.85E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	8.41E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	7.53E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	7.76E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	7.40E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	6.51E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	7.05E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	6.15E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	5.91E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	6.08E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	5.17E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	5.33E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	4.92E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	4.63E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	4.58E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	4.06E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	4.21E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	3.76E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	3.77E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	3.27E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	3.33E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	2.93E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	2.98E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	2.61E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	2.73E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	2.44E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	2.35E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	2.21E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	2.01E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	1.93E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	1.77E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	1.72E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	1.61E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	1.41E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	1.22E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	9.01E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	5.54E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	3.23E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	1.88E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	1.11E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	5.05E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	2.36E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	9.25E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	2.47E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	3.16E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	2.31E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 22000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON 02 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	NO VIB-ROT	NO 2	PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52	5.60	1.06E-23	0.	0.	1.02E-15	6.54E-15	0.	4.26E-09	3.51E-06	1.59E-05	6.12E-06	2.56E-05
53	5.50	0.	0.	0.	1.24E-15	6.05E-15	0.	4.28E-09	3.70E-06	1.64E-05	6.19E-06	2.63E-05
54	5.40	0.	0.	0.	1.17E-15	5.09E-15	0.	4.31E-09	3.92E-06	1.70E-05	6.27E-06	2.72E-05
55	5.30	0.	0.	0.	1.20E-15	6.28E-15	0.	4.33E-09	4.14E-06	1.13E-05	6.36E-06	2.19E-05
56	5.20	0.	0.	0.	1.30E-15	5.00E-15	0.	4.36E-09	4.39E-06	1.17E-05	6.18E-06	2.23E-05
57	5.10	0.	0.	0.	1.30E-15	6.35E-15	0.	4.40E-09	4.66E-06	1.22E-05	6.28E-06	2.31E-05
58	5.00	1.49E-16	0.	0.	1.20E-15	6.09E-15	0.	4.44E-09	4.95E-06	1.26E-05	6.38E-06	2.39E-05
59	4.90	3.64E-16	0.	0.	1.35E-15	6.75E-15	0.	4.47E-09	5.24E-06	1.31E-05	6.50E-06	2.49E-05
60	4.80	7.05E-16	0.	0.	1.46E-15	6.38E-15	0.	4.51E-09	5.60E-06	1.36E-05	6.65E-06	2.59E-05
61	4.70	9.68E-16	0.	0.	1.48E-15	5.84E-15	0.	4.55E-09	5.97E-06	1.42E-05	6.83E-06	2.70E-05
62	4.60	1.36E-15	0.	0.	1.53E-15	5.29E-15	0.	4.58E-09	6.37E-06	1.50E-05	7.02E-06	2.84E-05
63	4.50	1.44E-15	0.	1.62E-15	1.42E-15	4.00E-15	0.	4.62E-09	6.81E-06	1.58E-05	7.22E-06	2.94E-05
64	4.40	1.57E-15	0.	4.67E-15	1.44E-15	2.72E-15	0.	4.66E-09	7.29E-06	1.67E-05	7.37E-06	3.14E-05
65	4.30	1.50E-15	0.	1.63E-14	1.39E-15	1.73E-15	0.	4.69E-09	7.81E-06	1.77E-05	7.59E-06	3.31E-05
66	4.20	1.42E-15	0.	4.95E-14	1.47E-15	1.19E-15	0.	4.73E-09	8.39E-06	1.87E-05	7.81E-06	3.49E-05
67	4.10	1.34E-15	0.	2.33E-14	1.46E-15	3.36E-16	0.	4.75E-09	9.02E-06	1.97E-05	7.79E-06	3.65E-05
68	4.00	1.25E-15	0.	7.19E-14	1.42E-15	2.51E-16	0.	4.77E-09	9.72E-06	2.08E-05	8.08E-06	3.84E-05
69	3.90	1.08E-15	0.	3.45E-14	4.45E-12	1.34E-15	9.26E-17	4.75E-09	1.05E-05	2.09E-05	4.23E-06	3.56E-05
70	3.80	1.19E-15	0.	5.58E-14	1.71E-11	1.45E-15	0.	4.73E-09	1.14E-05	1.87E-05	4.42E-06	3.45E-05
71	3.70	1.08E-15	0.	5.62E-14	8.36E-12	1.27E-15	0.	4.66E-09	1.23E-05	1.97E-05	4.81E-06	3.68E-05
72	3.60	9.89E-16	0.	4.20E-14	4.20E-11	1.37E-15	0.	4.36E-09	1.34E-05	2.10E-05	5.23E-06	3.97E-05
73	3.50	9.37E-16	0.	5.43E-14	7.26E-11	1.11E-15	0.	3.99E-09	1.46E-05	2.23E-05	5.72E-06	4.26E-05
74	3.40	8.74E-16	0.	3.61E-14	1.27E-11	1.25E-15	0.	2.30E-09	1.60E-05	2.43E-05	6.27E-06	4.65E-05
75	3.30	7.06E-16	0.	3.69E-14	4.55E-11	1.02E-15	0.	2.31E-09	1.75E-05	2.63E-05	6.83E-06	5.06E-05
76	3.20	6.25E-16	0.	2.48E-14	6.93E-11	1.08E-15	0.	2.31E-09	1.92E-05	2.85E-05	7.43E-06	5.52E-05
77	3.10	6.08E-16	0.	1.95E-14	2.02E-11	1.04E-15	0.	2.32E-09	2.12E-05	3.08E-05	8.03E-06	6.00E-05
78	3.00	5.54E-16	0.	1.21E-14	4.30E-11	9.96E-16	0.	2.32E-09	2.34E-05	3.32E-05	8.63E-06	6.52E-05
79	2.90	4.74E-16	0.	7.71E-15	2.31E-11	7.80E-16	0.	2.32E-09	2.59E-05	3.57E-05	9.32E-06	7.09E-05
80	2.80	5.00E-16	0.	3.72E-15	1.66E-11	5.60E-16	0.	2.33E-09	2.89E-05	3.83E-05	1.01E-05	7.74E-05
81	2.70	3.31E-16	0.	1.76E-15	2.02E-11	3.16E-16	0.	2.33E-09	3.23E-05	4.09E-05	1.09E-05	7.70E-05
82	2.60	1.61E-16	0.	8.39E-16	2.16E-12	1.43E-16	0.	2.33E-09	3.62E-05	4.33E-05	1.17E-05	8.43E-05
83	2.50	1.15E-17	0.	8.64E-17	2.12E-12	3.48E-17	0.	2.33E-09	4.08E-05	4.59E-05	1.25E-05	8.93E-05
84	2.40	0.	3.74E-15	0.	1.57E-12	3.77E-18	0.	2.33E-09	4.63E-05	4.84E-05	1.33E-05	9.27E-05
85	2.30	0.	1.07E-14	0.	0.	0.	0.	2.31E-09	5.27E-05	5.09E-05	1.41E-05	1.04E-04
86	2.20	0.	2.91E-14	0.	0.	0.	0.	2.30E-09	6.03E-05	5.23E-05	1.46E-05	1.25E-04
87	2.10	0.	2.91E-14	0.	0.	0.	0.	2.29E-09	6.93E-05	5.40E-05	1.46E-05	1.44E-04
88	2.00	0.	5.88E-14	0.	0.	0.	0.	2.22E-09	8.04E-05	5.68E-05	1.46E-05	1.65E-04
89	1.90	0.	6.81E-14	0.	0.	0.	0.	2.13E-09	9.44E-05	5.94E-05	1.46E-05	1.87E-04
90	1.80	0.	5.89E-14	0.	0.	0.	0.	2.04E-09	1.12E-04	6.20E-05	1.46E-05	2.27E-04
91	1.70	0.	6.62E-14	0.	0.	0.	0.	1.92E-09	1.33E-04	6.47E-05	1.46E-05	2.71E-04
92	1.60	0.	5.03E-14	0.	0.	0.	0.	1.63E-09	1.60E-04	6.72E-05	1.46E-05	3.21E-04
93	1.50	0.	5.69E-14	0.	0.	0.	0.	7.39E-10	1.96E-04	7.07E-05	1.46E-05	3.98E-04
94	1.40	0.	5.59E-14	0.	0.	0.	0.	0.	2.41E-04	7.27E-05	1.46E-05	4.87E-04
95	1.30	0.	4.28E-14	0.	0.	0.	0.	0.	3.03E-04	7.57E-05	1.46E-05	5.94E-04
96	1.20	0.	4.08E-14	0.	0.	0.	0.	0.	3.86E-04	7.87E-05	1.46E-05	7.27E-04
97	1.10	0.	3.99E-14	0.	0.	0.	0.	0.	5.04E-04	8.17E-05	1.46E-05	8.94E-04
98	1.00	0.	3.67E-14	0.	0.	0.	0.	0.	6.79E-04	8.47E-05	1.46E-05	1.10E-03
99	0.90	0.	3.01E-14	0.	0.	0.	0.	0.	9.40E-04	8.72E-05	1.46E-05	1.35E-03
100	0.80	0.	1.41E-14	0.	0.	0.	0.	0.	1.35E-03	9.02E-05	1.46E-05	1.65E-03
101	0.70	0.	3.24E-15	0.	0.	0.	0.	0.	2.05E-03	9.27E-05	1.46E-05	2.04E-03
102	0.60	0.	7.53E-16	0.	0.	0.	0.	0.	3.31E-03	9.52E-05	1.46E-05	2.48E-03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		22000.		DENSITY (GM/CC) 1.293E-07		(10.0E-05 NORMAL)		FREE-FREE (IONS)		N		P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15
1 10.70 0.	9.63E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10.60 0.	8.89E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10.50 0.	9.06E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10.40 0.	8.71E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10.30 0.	7.71E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10.20 0.	8.05E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10.10 0.	7.65E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10.00 0.	6.84E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9.90 0.	7.05E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9.80 0.	6.72E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9.70 0.	5.92E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9.60 0.	6.41E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9.50 0.	5.59E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9.40 0.	5.37E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9.30 0.	5.53E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9.20 0.	4.70E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9.10 0.	4.84E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9.00 0.	4.47E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8.90 0.	4.21E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8.80 0.	4.16E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8.70 0.	3.69E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8.60 0.	3.83E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8.50 0.	3.42E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8.40 0.	3.43E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8.30 0.	2.97E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8.20 0.	3.03E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8.10 0.	2.66E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8.00 0.	2.71E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7.90 0.	2.37E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7.80 0.	2.48E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7.70 0.	2.22E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7.60 0.	2.13E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7.50 0.	2.01E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7.40 0.	1.83E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7.30 0.	1.76E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7.20 0.	1.61E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7.10 0.	1.57E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7.00 0.	1.46E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6.90 0.	1.36E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6.80 0.	1.33E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6.70 0.	1.18E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6.60 0.	1.08E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6.50 0.	8.77E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6.40 0.	6.23E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6.30 0.	4.00E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6.20 0.	2.28E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6.10 0.	1.10E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6.00 0.	2.83E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5.90 0.	3.05E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5.80 0.	3.90E-25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5.70 0.	2.87E-26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 22000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTO G2 S-R	N2	N2	N2+	N2	BETA	GAMMA	VIB-ROT	NO	NO	2	U-	FREE-FREE	N	U	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	PHOTO-DET (IONS)	P.E.	P.E.	P.E.	P.E.
52	5.60	1.31E-27	0.	0.	0.	1.08E-19	6.93E-19	0.	0.	0.	5.40E-12	5.50E-08	2.79E-07	7.49E-08	4.09E-07
53	5.50	0.	0.	0.	0.	1.32E-19	6.41E-19	0.	0.	0.	5.43E-12	5.81E-08	2.93E-07	7.60E-08	4.27E-07
54	5.40	0.	0.	0.	0.	1.24E-19	5.39E-19	0.	0.	0.	5.46E-12	6.14E-08	3.09E-07	7.74E-08	4.47E-07
55	5.30	0.	0.	0.	0.	1.27E-19	6.66E-19	0.	0.	0.	5.49E-12	6.50E-08	3.24E-07	7.90E-08	4.68E-07
56	5.20	0.	0.	0.	0.	1.38E-19	5.29E-19	0.	0.	0.	5.53E-12	6.89E-08	3.40E-07	8.08E-08	4.89E-07
57	5.10	0.	0.	0.	0.	1.38E-19	6.73E-19	0.	0.	0.	5.57E-12	7.30E-08	3.56E-07	8.25E-08	5.11E-07
58	5.00	1.85E-20	0.	0.	0.	1.27E-19	6.46E-19	0.	0.	0.	5.62E-12	7.75E-08	3.72E-07	8.43E-08	5.34E-07
59	4.90	4.56E-20	0.	0.	0.	1.43E-19	7.15E-19	0.	0.	0.	5.67E-12	8.24E-08	3.88E-07	8.63E-08	5.53E-07
60	4.80	8.70E-20	0.	0.	0.	1.55E-19	6.77E-19	0.	0.	0.	5.71E-12	8.78E-08	4.05E-07	8.84E-08	5.78E-07
61	4.70	1.21E-19	0.	0.	0.	1.57E-19	6.19E-19	0.	0.	0.	5.76E-12	9.35E-08	4.29E-07	9.05E-08	6.09E-07
62	4.60	1.67E-19	0.	0.	0.	1.62E-19	5.61E-19	0.	0.	0.	5.81E-12	9.98E-08	4.58E-07	9.26E-08	6.48E-07
63	4.50	1.78E-19	0.	0.	0.	1.51E-19	4.24E-19	0.	0.	0.	5.86E-12	1.07E-07	4.89E-07	9.47E-08	6.88E-07
64	4.40	1.93E-19	0.	0.	0.	1.53E-19	2.88E-19	0.	0.	0.	5.90E-12	1.14E-07	5.20E-07	9.67E-08	7.30E-07
65	4.30	1.85E-19	0.	0.	0.	1.48E-19	1.84E-19	0.	0.	0.	5.95E-12	1.22E-07	5.52E-07	9.85E-08	7.70E-07
66	4.20	1.75E-19	0.	0.	0.	1.56E-19	1.26E-19	0.	0.	0.	6.00E-12	1.31E-07	5.88E-07	1.01E-07	8.07E-07
67	4.10	1.66E-19	0.	0.	0.	1.55E-19	3.58E-20	0.	0.	0.	6.02E-12	1.41E-07	6.25E-07	1.03E-07	8.29E-07
68	4.00	1.55E-19	0.	0.	0.	1.51E-19	2.66E-20	0.	0.	0.	6.04E-12	1.52E-07	6.55E-07	1.05E-07	8.71E-07
69	3.90	1.34E-19	0.	0.	0.	1.42E-19	9.81E-21	0.	0.	0.	6.02E-12	1.64E-07	6.83E-07	1.07E-07	9.13E-07
70	3.80	1.48E-19	0.	0.	0.	1.54E-19	0.	0.	0.	0.	6.00E-12	1.78E-07	7.09E-07	1.09E-07	9.47E-07
71	3.70	1.34E-19	0.	0.	0.	1.34E-19	0.	0.	0.	0.	5.90E-12	1.93E-07	7.32E-07	1.11E-07	9.81E-07
72	3.60	1.22E-19	0.	0.	0.	1.45E-19	0.	0.	0.	0.	5.93E-12	2.10E-07	7.72E-07	1.13E-07	1.01E-06
73	3.50	1.16E-19	0.	0.	0.	1.17E-19	0.	0.	0.	0.	5.06E-12	2.29E-07	8.18E-07	1.15E-07	1.13E-06
74	3.40	1.04E-19	0.	0.	0.	1.32E-19	0.	0.	0.	0.	2.92E-12	2.50E-07	8.70E-07	1.17E-07	1.22E-06
75	3.30	8.72E-20	0.	0.	0.	1.08E-19	0.	0.	0.	0.	2.92E-12	2.74E-07	9.22E-07	1.03E-07	1.30E-06
76	3.20	7.73E-20	0.	0.	0.	1.14E-19	0.	0.	0.	0.	2.93E-12	3.01E-07	9.90E-07	1.08E-07	1.40E-06
77	3.10	7.51E-20	0.	0.	0.	1.10E-19	0.	0.	0.	0.	2.93E-12	3.31E-07	1.07E-07	1.17E-07	1.40E-06
78	3.00	6.85E-20	0.	0.	0.	1.06E-19	0.	0.	0.	0.	2.94E-12	3.66E-07	1.13E-07	1.27E-07	1.40E-06
79	2.90	5.86E-20	0.	0.	0.	8.27E-20	0.	0.	0.	0.	2.95E-12	4.05E-07	1.18E-07	1.26E-07	1.42E-06
80	2.80	6.18E-20	0.	0.	0.	5.94E-20	0.	0.	0.	0.	2.95E-12	4.51E-07	1.24E-07	1.29E-07	1.22E-06
81	2.70	4.09E-20	0.	0.	0.	3.35E-20	0.	0.	0.	0.	2.95E-12	5.04E-07	1.31E-07	1.21E-07	1.33E-06
82	2.60	1.99E-20	0.	0.	0.	1.52E-20	0.	0.	0.	0.	2.95E-12	5.66E-07	1.39E-07	1.24E-07	1.42E-06
83	2.50	1.41E-21	0.	0.	0.	3.69E-21	0.	0.	0.	0.	2.95E-12	6.38E-07	1.48E-07	1.28E-07	1.50E-06
84	2.40	0.	0.	0.	0.	4.00E-22	0.	0.	0.	0.	2.95E-12	7.22E-07	1.58E-07	1.34E-07	1.50E-06
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.93E-12	8.22E-07	1.68E-07	1.41E-07	1.58E-06
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.92E-12	9.41E-07	1.79E-07	1.50E-07	1.98E-06
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.90E-12	1.08E-06	1.91E-06	1.75E-07	2.26E-06
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.81E-12	1.26E-06	2.06E-06	2.01E-07	2.56E-06
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.81E-12	1.47E-06	2.26E-06	2.26E-07	2.90E-06
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.70E-12	1.74E-06	2.57E-06	2.61E-07	3.30E-06
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.59E-12	2.07E-06	2.97E-06	3.11E-07	3.82E-06
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.44E-12	2.50E-06	3.47E-06	3.38E-07	4.47E-06
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.06E-12	3.05E-06	4.03E-06	4.63E-07	5.40E-06
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.37E-13	3.76E-06	4.91E-06	5.20E-07	6.19E-06
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.71E-06	5.59E-06	5.65E-07	7.87E-06
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.01E-06	7.45E-07	1.00E-05	1.00E-05
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.86E-06	1.01E-05	1.27E-05	1.27E-05
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.05E-05	1.46E-05	1.95E-05	1.95E-05
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-05	2.09E-05	2.72E-05	2.72E-05
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.09E-05	3.17E-05	4.03E-05	4.03E-05
1.1	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.17E-05	4.78E-05	6.03E-05	6.03E-05
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.11E-05	7.38E-05	9.27E-05	9.27E-05

TEMPERATURE (DEGREES K) 2200.  
DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

350



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2200C. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON U2 S-R	N2	N2	N2+	BETA	GAMMA	NO	VIB-ROT	NO	2	U-	FREE-FREE	N	O	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.							PHOTO-DET (IONS)	(IONS)	P.E.	P.E.	
52	5.60	1.51E-31	0.	0.	7.02E-24	4.51E-23	0.	0.	0.	7.82E-15	1.30E-09	9.64E-09	1.59E-09	1.25E-08
53	5.50	0.	0.	0.	8.59E-24	4.10E-23	0.	0.	0.	7.86E-15	1.37E-09	1.02E-08	1.63E-09	1.32E-08
54	5.40	0.	0.	0.	8.06E-24	3.51E-23	0.	0.	0.	7.90E-15	1.45E-09	1.08E-08	1.69E-09	1.40E-08
55	5.30	0.	0.	0.	8.26E-24	3.33E-23	0.	0.	0.	7.95E-15	1.53E-09	1.14E-08	1.76E-09	1.47E-08
56	5.20	0.	0.	0.	8.98E-24	3.45E-23	0.	0.	0.	8.00E-15	1.63E-09	1.21E-08	1.83E-09	1.55E-08
57	5.10	0.	0.	0.	9.01E-24	4.38E-23	0.	0.	0.	8.07E-15	1.72E-09	1.27E-08	1.59E-09	1.60E-08
58	5.00	2.16E-24	0.	0.	8.30E-24	4.20E-23	0.	0.	0.	8.14E-15	1.83E-09	1.33E-08	1.66E-09	1.68E-08
59	4.90	5.35E-24	0.	0.	9.33E-24	4.66E-23	0.	0.	0.	8.21E-15	1.95E-09	1.39E-08	1.72E-09	1.76E-08
60	4.80	1.02E-23	0.	0.	1.01E-23	4.41E-23	0.	0.	0.	8.27E-15	2.07E-09	1.45E-08	1.78E-09	1.84E-08
61	4.70	1.40E-23	0.	0.	1.02E-23	4.03E-23	0.	0.	0.	8.34E-15	2.21E-09	1.54E-08	1.86E-09	1.95E-08
62	4.60	1.9E-23	0.	0.	1.06E-23	3.65E-23	0.	0.	0.	8.41E-15	2.36E-09	1.66E-08	1.94E-09	2.09E-08
63	4.50	2.09E-23	0.	0.	9.83E-24	2.76E-23	0.	0.	0.	8.48E-15	2.52E-09	1.78E-08	2.02E-09	2.23E-08
64	4.40	2.27E-23	0.	0.	9.94E-24	1.88E-23	0.	0.	0.	8.55E-15	2.69E-09	1.90E-08	2.13E-09	2.38E-08
65	4.30	2.18E-23	0.	0.	9.62E-24	1.20E-23	0.	0.	0.	8.61E-15	2.89E-09	2.01E-08	2.22E-09	2.52E-08
66	4.20	2.05E-23	0.	0.	1.02E-23	8.18E-24	0.	0.	0.	8.68E-15	3.10E-09	2.15E-08	1.82E-09	2.64E-08
67	4.10	1.95E-23	0.	0.	1.01E-23	2.32E-24	0.	0.	0.	8.72E-15	3.33E-09	2.29E-08	1.95E-09	2.82E-08
68	4.00	1.82E-23	0.	0.	9.83E-24	1.73E-24	0.	0.	0.	8.75E-15	3.59E-09	2.43E-08	2.09E-09	3.00E-08
69	3.90	1.57E-23	0.	0.	1.13E-22	9.50E-19	0.	0.	0.	8.72E-15	3.88E-09	2.56E-08	2.22E-09	3.17E-08
70	3.80	1.73E-23	0.	0.	1.83E-22	3.68E-18	0.	0.	0.	8.68E-15	4.20E-09	2.71E-08	2.36E-09	3.36E-08
71	3.70	1.57E-23	0.	0.	1.84E-22	1.50E-18	0.	0.	0.	8.55E-15	4.55E-09	2.85E-08	2.52E-09	3.55E-08
72	3.60	1.43E-23	0.	0.	1.30E-22	9.04E-18	0.	0.	0.	8.00E-15	4.95E-09	2.99E-08	2.69E-09	3.76E-08
73	3.50	1.35E-23	0.	0.	1.70E-22	1.50E-17	0.	0.	0.	7.33E-15	5.39E-09	3.15E-08	2.88E-09	3.98E-08
74	3.40	1.27E-23	0.	0.	1.19E-22	2.73E-18	0.	0.	0.	4.23E-15	5.89E-09	1.11E-08	2.77E-09	1.98E-08
75	3.30	1.02E-23	0.	0.	1.21E-22	9.80E-18	0.	0.	0.	4.23E-15	6.45E-09	1.08E-08	2.97E-09	2.03E-08
76	3.20	9.06E-24	0.	0.	8.15E-23	1.49E-17	0.	0.	0.	4.24E-15	7.08E-09	1.23E-08	2.52E-09	2.19E-08
77	3.10	8.81E-24	0.	0.	6.40E-23	4.35E-18	0.	0.	0.	4.25E-15	7.74E-09	1.41E-08	2.77E-09	2.46E-08
78	3.00	8.03E-24	0.	0.	3.98E-23	9.25E-18	0.	0.	0.	4.26E-15	8.61E-09	1.58E-08	2.45E-09	2.68E-08
79	2.90	6.88E-24	0.	0.	2.53E-23	4.98E-18	0.	0.	0.	4.27E-15	9.54E-09	1.75E-08	2.69E-09	2.97E-08
80	2.80	7.25E-24	0.	0.	1.22E-23	3.57E-18	0.	0.	0.	4.27E-15	1.06E-08	1.92E-08	2.94E-09	3.28E-08
81	2.70	4.79E-24	0.	0.	5.77E-24	4.34E-18	0.	0.	0.	4.27E-15	1.18E-08	2.10E-08	2.64E-09	3.55E-08
82	2.60	2.33E-24	0.	0.	2.76E-24	4.64E-19	0.	0.	0.	4.27E-15	1.33E-08	2.27E-08	2.82E-09	3.89E-08
83	2.50	1.66E-25	0.	0.	2.84E-25	4.54E-19	0.	0.	0.	4.27E-15	1.50E-08	2.45E-08	3.17E-09	4.27E-08
84	2.40	0.	0.	0.	1.23E-23	0.	0.	0.	0.	4.27E-15	1.70E-08	2.80E-08	3.64E-09	4.86E-08
85	2.30	0.	0.	0.	3.51E-23	0.	0.	0.	0.	4.24E-15	1.93E-08	3.15E-08	4.17E-09	5.50E-08
86	2.20	0.	0.	0.	9.55E-23	0.	0.	0.	0.	4.22E-15	2.21E-08	3.50E-08	4.71E-09	6.18E-08
87	2.10	0.	0.	0.	9.56E-23	0.	0.	0.	0.	4.21E-15	2.54E-08	3.86E-08	5.25E-09	6.93E-08
88	2.00	0.	0.	0.	1.93E-22	0.	0.	0.	0.	4.07E-15	2.95E-08	4.21E-08	5.80E-09	7.75E-08
89	1.90	0.	0.	0.	2.24E-22	0.	0.	0.	0.	3.91E-15	3.45E-08	2.13E-08	4.02E-09	5.98E-08
90	1.80	0.	0.	0.	1.93E-22	0.	0.	0.	0.	3.74E-15	4.08E-08	2.39E-08	4.71E-09	6.94E-08
91	1.70	0.	0.	0.	2.17E-22	0.	0.	0.	0.	3.53E-15	4.86E-08	2.67E-08	5.49E-09	8.09E-08
92	1.60	0.	0.	0.	1.65E-22	0.	0.	0.	0.	2.98E-15	5.86E-08	2.95E-08	6.15E-09	9.43E-08
93	1.50	0.	0.	0.	1.87E-22	0.	0.	0.	0.	1.36E-15	7.13E-08	3.30E-08	7.18E-09	1.11E-07
94	1.40	0.	0.	0.	1.84E-22	0.	0.	0.	0.	0.	8.80E-08	3.46E-08	6.72E-09	1.29E-07
95	1.30	0.	0.	0.	1.41E-22	0.	0.	0.	0.	0.	1.10E-07	4.00E-08	8.60E-09	1.59E-07
96	1.20	0.	0.	0.	1.34E-22	0.	0.	0.	0.	0.	1.41E-07	1.55E-08	7.17E-09	1.63E-07
97	1.10	0.	0.	0.	1.31E-22	0.	0.	0.	0.	0.	1.84E-07	1.92E-08	9.06E-09	2.12E-07
98	1.00	0.	0.	0.	1.20E-22	0.	0.	0.	0.	0.	2.46E-07	2.34E-08	1.09E-08	2.80E-07
99	0.90	0.	0.	0.	9.87E-23	0.	0.	0.	0.	0.	3.40E-07	2.61E-08	1.12E-08	3.77E-07
100	0.80	0.	0.	0.	4.63E-23	0.	0.	0.	0.	0.	4.88E-07	3.02E-08	1.30E-08	5.31E-07
101	0.70	0.	0.	0.	1.06E-23	0.	0.	0.	0.	0.	7.37E-07	2.87E-08	1.13E-08	7.77E-07
102	0.60	0.	0.	0.	2.47E-24	0.	0.	0.	0.	0.	1.19E-06	3.23E-08	1.28E-08	1.23E-06



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE (M.))

TEMPERATURE (DEGREES K)			DENSITY (GM/CC)			1.293E-09 ( 1.0E-06 NORMAL)			
PHOTON ENERGY E.V.	O2 S-R CONT.	N2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	U- PHOTO-DET (IONS)	FREE-FREE N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	1.65E-27	0.	0.	0.	4.19E-18	3.08E-12	2.65E-10	4.95E-11 3.17E-10
2 10.60 0.	0.	1.52E-27	0.	0.	0.	4.20E-18	3.17E-12	2.67E-10	4.95E-11 3.19E-10
3 10.50 0.	0.	1.55E-27	0.	0.	0.	4.20E-18	3.26E-12	2.69E-10	4.96E-11 3.22E-10
4 10.40 0.	0.	1.49E-27	0.	0.	0.	4.21E-18	3.36E-12	2.71E-10	4.96E-11 3.24E-10
5 10.30 0.	0.	1.32E-27	0.	0.	0.	4.21E-18	3.46E-12	2.74E-10	4.97E-11 3.27E-10
6 10.20 0.	0.	1.38E-27	0.	0.	0.	4.22E-18	3.56E-12	2.79E-10	5.03E-11 3.33E-10
7 10.10 0.	0.	1.31E-27	0.	0.	0.	4.22E-18	3.67E-12	2.83E-10	5.09E-11 3.38E-10
8 10.00 0.	0.	1.17E-27	0.	0.	0.	4.23E-18	3.78E-12	2.88E-10	5.16E-11 3.43E-10
9 9.90 0.	0.	1.21E-27	0.	0.	0.	4.24E-18	3.89E-12	2.92E-10	5.22E-11 3.48E-10
10 9.80 0.	0.	1.15E-27	0.	0.	0.	4.24E-18	4.02E-12	2.97E-10	5.28E-11 3.54E-10
11 9.70 0.	0.	1.01E-27	0.	0.	0.	4.25E-18	4.14E-12	3.01E-10	5.35E-11 3.59E-10
12 9.60 0.	0.	1.10E-27	0.	0.	0.	4.26E-18	4.27E-12	3.06E-10	5.41E-11 3.64E-10
13 9.50 0.	0.	9.56E-28	0.	0.	0.	4.27E-18	4.41E-12	3.10E-10	5.47E-11 3.70E-10
14 9.40 0.	0.	9.19E-28	0.	0.	0.	4.28E-18	4.55E-12	3.14E-10	5.55E-11 3.74E-10
15 9.30 0.	0.	9.46E-28	0.	0.	0.	4.30E-18	4.70E-12	3.19E-10	5.62E-11 3.80E-10
16 9.20 0.	0.	8.04E-28	0.	0.	0.	4.31E-18	4.86E-12	3.23E-10	5.68E-11 3.85E-10
17 9.10 0.	0.	8.29E-28	0.	0.	0.	4.33E-18	5.02E-12	3.28E-10	5.75E-11 3.91E-10
18 9.00 0.	0.	7.65E-28	0.	0.	0.	4.35E-18	5.19E-12	3.33E-10	5.80E-11 3.96E-10
19 8.90 0.	0.	7.20E-28	0.	0.	0.	4.36E-18	5.37E-12	3.37E-10	5.87E-11 4.02E-10
20 8.80 0.	0.	7.12E-28	0.	0.	0.	4.38E-18	5.55E-12	3.42E-10	5.94E-11 4.08E-10
21 8.70 0.	0.	6.31E-28	0.	0.	0.	4.39E-18	5.75E-12	3.47E-10	6.02E-11 4.15E-10
22 8.60 0.	0.	6.54E-28	0.	0.	0.	4.41E-18	5.95E-12	3.52E-10	6.10E-11 4.22E-10
23 8.50 0.	0.	5.85E-28	0.	0.	0.	4.42E-18	6.17E-12	3.57E-10	6.18E-11 4.29E-10
24 8.40 0.	0.	5.87E-28	0.	0.	0.	4.45E-18	6.39E-12	3.62E-10	6.26E-11 4.36E-10
25 8.30 0.	0.	5.08E-28	0.	0.	0.	4.47E-18	6.63E-12	3.67E-10	6.34E-11 4.43E-10
26 8.20 0.	0.	5.18E-28	0.	0.	0.	4.49E-18	6.87E-12	3.72E-10	6.42E-11 4.50E-10
27 8.10 0.	0.	4.56E-28	0.	0.	0.	4.52E-18	7.13E-12	3.77E-10	6.50E-11 4.57E-10
28 8.00 0.	0.	4.63E-28	0.	0.	0.	4.54E-18	7.40E-12	3.81E-10	6.58E-11 4.64E-10
29 7.90 0.	0.	4.05E-28	0.	0.	0.	4.56E-18	7.69E-12	3.86E-10	6.66E-11 4.71E-10
30 7.80 0.	0.	4.25E-28	0.	0.	0.	4.59E-18	7.99E-12	3.91E-10	6.74E-11 4.78E-10
31 7.70 0.	0.	3.79E-28	0.	0.	0.	4.61E-18	8.30E-12	3.96E-10	6.82E-11 4.85E-10
32 7.60 0.	0.	3.65E-28	0.	1.06E-31	0.	4.63E-18	8.64E-12	4.01E-10	6.90E-11 4.92E-10
33 7.50 0.	0.	3.44E-28	0.	3.30E-31	0.	4.66E-18	8.99E-12	4.06E-10	6.98E-11 4.99E-10
34 7.40 0.	0.	3.13E-28	0.	3.07E-30	0.	4.68E-18	9.36E-12	4.11E-10	7.06E-11 5.06E-10
35 7.30 0.	0.	3.01E-28	0.	1.15E-29	0.	4.71E-18	9.75E-12	4.16E-10	7.14E-11 5.13E-10
36 7.20 0.	0.	2.75E-28	0.	3.23E-29	0.	4.73E-18	1.02E-11	4.21E-10	7.22E-11 5.20E-10
37 7.10 0.	0.	2.68E-28	0.	1.02E-28	0.	4.77E-18	1.06E-11	4.26E-10	7.30E-11 5.27E-10
38 7.00 2.28E-30	0.	2.50E-28	0.	1.92E-28	0.	4.81E-18	1.11E-11	4.31E-10	7.38E-11 5.34E-10
39 6.90 4.50E-30	0.	2.33E-28	0.	2.86E-28	0.	4.85E-18	1.15E-11	4.36E-10	7.46E-11 5.41E-10
40 6.80 3.92E-30	0.	2.28E-28	0.	4.70E-28	0.	4.89E-18	1.21E-11	4.41E-10	7.54E-11 5.48E-10
41 6.70 2.88E-30	0.	2.03E-28	0.	4.50E-28	0.	4.93E-18	1.26E-11	4.46E-10	7.62E-11 5.55E-10
42 6.60 1.77E-30	0.	1.85E-28	0.	3.95E-28	0.	4.97E-18	1.32E-11	4.51E-10	7.70E-11 5.62E-10
43 6.50 1.03E-30	0.	1.50E-28	0.	5.52E-28	0.	5.00E-18	1.38E-11	4.56E-10	7.78E-11 5.69E-10
44 6.40 6.01E-31	0.	1.07E-28	1.66E-30	5.03E-28	0.	5.04E-18	1.45E-11	4.61E-10	7.86E-11 5.76E-10
45 6.30 3.54E-31	0.	6.85E-29	7.97E-30	3.86E-28	0.	5.08E-18	1.52E-11	4.66E-10	7.94E-11 5.83E-10
46 6.20 1.62E-31	0.	3.89E-29	1.15E-29	5.14E-28	0.	5.12E-18	1.60E-11	4.71E-10	8.02E-11 5.90E-10
47 6.10 7.54E-32	0.	1.87E-29	3.32E-29	6.14E-28	0.	5.16E-18	1.68E-11	4.76E-10	8.10E-11 5.97E-10
48 6.00 3.18E-32	0.	4.84E-30	3.28E-29	3.16E-28	0.	5.20E-18	1.76E-11	4.81E-10	8.18E-11 6.04E-10
49 5.90 7.90E-33	0.	3.47E-31	4.86E-29	3.04E-28	0.	5.24E-18	1.85E-11	4.86E-10	8.26E-11 6.11E-10
50 5.80 1.01E-33	0.	8.80E-33	6.86E-29	3.21E-28	0.	5.28E-18	1.95E-11	4.91E-10	8.34E-11 6.18E-10
51 5.70 7.44E-35	0.	0.	8.19E-29	3.59E-28	0.	4.81E-18	2.06E-11	4.96E-10	8.42E-11 6.25E-10

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 22000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	NU VIB-ROT	NU 2	O- PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	3.36E-36	0.	0.	7.10E-29	4.61E-28	0.	4.47E-18	2.17E-11	1.66E-10	3.70E-11	2.25E-10
53	5.50	0.	0.	0.	8.78E-29	4.27E-28	0.	4.50E-18	2.29E-11	1.76E-10	3.94E-11	2.30E-10
54	5.40	0.	0.	0.	8.24E-29	3.59E-28	0.	4.52E-18	2.42E-11	1.86E-10	4.15E-11	2.52E-10
55	5.30	0.	0.	0.	8.44E-29	4.43E-28	0.	4.55E-18	2.56E-11	1.97E-10	4.38E-11	2.67E-10
56	5.20	0.	0.	0.	9.10E-29	3.52E-28	0.	4.58E-18	2.72E-11	2.08E-10	4.66E-11	2.70E-10
57	5.10	0.	0.	0.	9.21E-29	4.40E-28	0.	4.62E-18	2.88E-11	2.19E-10	4.85E-11	2.84E-10
58	5.00	4.76E-29	0.	0.	8.49E-29	4.30E-28	0.	4.66E-18	3.06E-11	2.30E-10	5.04E-11	2.99E-10
59	4.90	1.18E-28	0.	0.	9.54E-29	4.76E-28	0.	4.69E-18	3.25E-11	2.41E-10	5.23E-11	3.14E-10
60	4.80	2.25E-28	0.	0.	1.03E-28	4.50E-28	0.	4.73E-18	3.46E-11	2.52E-10	5.42E-11	3.29E-10
61	4.70	3.10E-28	0.	0.	1.04E-28	4.12E-28	0.	4.77E-18	3.69E-11	2.67E-10	5.61E-11	3.49E-10
62	4.60	4.34E-28	0.	0.	1.08E-28	3.73E-28	0.	4.81E-18	3.93E-11	2.88E-10	5.80E-11	3.74E-10
63	4.50	4.46E-28	0.	0.	1.00E-28	2.82E-28	0.	4.85E-18	4.20E-11	3.08E-10	6.09E-11	4.00E-10
64	4.40	5.01E-28	0.	0.	1.02E-28	1.92E-28	0.	4.89E-18	4.50E-11	3.29E-10	6.28E-11	4.26E-10
65	4.30	4.80E-28	0.	0.	9.83E-29	1.22E-28	0.	4.93E-18	4.82E-11	3.49E-10	6.47E-11	4.50E-10
66	4.20	4.53E-28	0.	0.	1.04E-28	8.36E-29	0.	4.97E-18	5.10E-11	3.73E-10	6.66E-11	4.74E-10
67	4.10	4.30E-28	0.	0.	1.03E-28	2.37E-29	0.	4.99E-18	5.57E-11	3.98E-10	6.85E-11	5.14E-10
68	4.00	4.01E-28	0.	0.	1.00E-28	1.77E-29	0.	5.00E-18	6.00E-11	4.23E-10	7.04E-11	5.48E-10
69	3.90	3.46E-28	0.	0.	9.45E-29	6.53E-30	0.	4.99E-18	6.48E-11	4.48E-10	7.23E-11	5.83E-10
70	3.80	3.82E-28	0.	0.	1.02E-28	0.	0.	4.97E-18	7.01E-11	4.74E-10	7.42E-11	6.18E-10
71	3.70	3.47E-28	0.	0.	8.74E-28	7.00E-23	0.	4.89E-18	7.60E-11	4.99E-10	7.61E-11	6.54E-10
72	3.60	3.16E-28	0.	0.	6.53E-28	3.52E-22	0.	4.88E-18	8.26E-11	5.24E-10	7.80E-11	6.80E-10
73	3.50	3.00E-28	0.	0.	8.44E-28	6.08E-22	0.	4.86E-18	9.00E-11	5.52E-10	8.00E-11	7.07E-10
74	3.40	2.80E-28	0.	0.	5.61E-28	1.06E-22	0.	2.42E-18	9.83E-11	1.65E-10	8.26E-11	7.32E-10
75	3.30	2.26E-28	0.	0.	5.73E-28	3.82E-22	0.	2.42E-18	1.08E-10	1.79E-10	8.45E-11	7.57E-10
76	3.20	2.00E-28	0.	0.	3.86E-28	5.80E-22	0.	2.42E-18	1.10E-10	2.04E-10	8.64E-11	7.82E-10
77	3.10	1.95E-28	0.	0.	3.03E-28	1.69E-22	0.	2.43E-18	1.30E-10	2.33E-10	8.83E-11	8.07E-10
78	3.00	1.77E-28	0.	0.	1.89E-28	3.60E-22	0.	2.44E-18	1.44E-10	2.62E-10	9.02E-11	8.32E-10
79	2.90	1.52E-28	0.	0.	1.20E-28	1.94E-22	0.	2.44E-18	1.59E-10	2.91E-10	9.21E-11	8.57E-10
80	2.80	1.60E-28	0.	0.	5.79E-29	1.39E-22	0.	2.44E-18	1.77E-10	3.21E-10	9.40E-11	8.82E-10
81	2.70	1.06E-28	0.	0.	2.73E-29	1.69E-22	0.	2.44E-18	1.90E-10	3.50E-10	9.59E-11	9.07E-10
82	2.60	5.16E-29	0.	0.	1.31E-29	1.81E-22	0.	2.44E-18	2.22E-10	3.70E-10	9.78E-11	9.32E-10
83	2.50	3.66E-30	0.	0.	1.34E-30	1.78E-23	0.	2.44E-18	2.50E-10	4.16E-10	9.97E-11	9.57E-10
84	2.40	0.	5.82E-29	0.	1.32E-23	2.16E-31	0.	2.44E-18	2.83E-10	4.73E-10	1.06E-10	9.82E-10
85	2.30	0.	1.66E-28	0.	0.	0.	0.	2.42E-18	3.22E-10	5.30E-10	1.19E-10	1.01E-09
86	2.20	0.	4.52E-28	0.	0.	0.	0.	2.41E-18	3.68E-10	5.88E-10	1.32E-10	1.09E-09
87	2.10	0.	4.53E-28	0.	0.	0.	0.	2.41E-18	4.24E-10	6.51E-10	1.45E-10	1.17E-09
88	2.00	0.	9.15E-28	0.	0.	0.	0.	2.33E-18	4.92E-10	7.20E-10	1.58E-10	1.25E-09
89	1.90	0.	1.06E-27	0.	0.	0.	0.	2.24E-18	5.76E-10	8.00E-10	1.71E-10	1.32E-09
90	1.80	0.	9.15E-28	0.	0.	0.	0.	2.14E-18	6.80E-10	9.00E-10	1.84E-10	1.40E-09
91	1.70	0.	1.03E-27	0.	0.	0.	0.	2.02E-18	8.10E-10	1.01E-09	2.03E-10	1.48E-09
92	1.60	0.	7.83E-28	0.	0.	0.	0.	1.71E-18	9.76E-10	1.19E-09	2.22E-10	1.56E-09
93	1.50	0.	8.86E-28	0.	0.	0.	0.	7.76E-19	1.19E-09	1.47E-09	2.41E-10	1.64E-09
94	1.40	0.	8.69E-28	0.	0.	0.	0.	0.	1.47E-09	1.71E-09	2.60E-10	1.72E-09
95	1.30	0.	6.66E-28	0.	0.	0.	0.	0.	1.84E-09	2.22E-09	2.79E-10	1.80E-09
96	1.20	0.	6.35E-28	0.	0.	0.	0.	0.	2.34E-09	2.81E-09	3.08E-10	1.89E-09
97	1.10	0.	6.20E-28	0.	0.	0.	0.	0.	3.04E-09	3.38E-09	3.47E-10	2.01E-09
98	1.00	0.	5.70E-28	0.	0.	0.	0.	0.	4.09E-09	4.50E-09	3.86E-10	2.14E-09
99	0.90	0.	4.67E-28	0.	0.	0.	0.	0.	5.65E-09	5.69E-09	4.25E-10	2.27E-09
100	0.80	0.	2.19E-28	0.	0.	0.	0.	0.	8.11E-09	5.46E-09	4.64E-10	2.40E-09
101	0.70	0.	5.03E-29	0.	0.	0.	0.	0.	1.22E-08	6.25E-09	5.03E-10	2.53E-09
102	0.60	0.	1.17E-29	0.	0.	0.	0.	0.	1.97E-08	6.99E-09	5.42E-10	2.66E-09

TEMPERATURE (DEGREES K) 2300. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY E.V.	U2 S-R CONT.	N2 B-H NO. 1	NO BEYA	NO GAMMA	NO 2	PHOTO-DET (IONS)	Q- FREE-ION	N P.E.	U P.E.	TOTAL AIR
1 10.70 0.	0.	2.05E-01	0.	0.	0.	5.55E 00	9.74E-01	2.81E 02	7.94E 00	2.95E 02
2 10.60 0.	0.	1.85E-01	0.	0.	0.	5.56E 00	1.00E 00	2.61E 01	7.91E 00	4.07E 01
3 10.50 0.	0.	1.89E-01	0.	0.	0.	5.56E 00	1.03E 00	2.62E 01	7.87E 00	4.08E 01
4 10.40 0.	0.	1.82E-01	0.	0.	0.	5.57E 00	1.06E 00	2.63E 01	7.83E 00	4.09E 01
5 10.30 0.	0.	1.62E-01	0.	0.	0.	5.58E 00	1.09E 00	2.63E 01	7.80E 00	4.10E 01
6 10.20 0.	0.	1.69E-01	0.	0.	0.	5.59E 00	1.13E 00	2.64E 01	7.76E 00	4.10E 01
7 10.10 0.	0.	1.61E-01	0.	0.	0.	5.59E 00	1.16E 00	2.63E 01	7.72E 00	4.09E 01
8 10.00 0.	0.	1.45E-01	0.	0.	0.	5.60E 00	1.20E 00	2.63E 01	7.69E 00	4.09E 02
9 9.90 0.	0.	1.49E-01	0.	0.	0.	5.61E 00	1.23E 00	2.64E 01	7.65E 00	4.10E 01
10 9.80 0.	0.	1.43E-01	0.	0.	0.	5.62E 00	1.27E 00	2.64E 01	7.61E 00	4.11E 01
11 9.70 0.	0.	1.26E-01	0.	0.	0.	5.63E 00	1.31E 00	2.65E 01	7.57E 00	4.11E 01
12 9.60 0.	0.	1.37E-01	0.	0.	0.	5.64E 00	1.35E 00	2.66E 01	7.54E 00	4.12E 01
13 9.50 0.	0.	1.19E-01	0.	0.	0.	5.65E 00	1.40E 00	2.66E 01	7.50E 00	4.13E 01
14 9.40 0.	0.	1.15E-01	0.	0.	0.	5.67E 00	1.44E 00	2.67E 01	7.46E 00	4.14E 01
15 9.30 0.	0.	1.19E-01	0.	0.	0.	5.69E 00	1.49E 00	2.68E 01	7.43E 00	4.15E 01
16 9.20 0.	0.	1.01E-01	0.	0.	0.	5.71E 00	1.54E 00	2.69E 01	7.39E 00	4.16E 01
17 9.10 0.	0.	1.04E-01	0.	0.	0.	5.73E 00	1.59E 00	2.70E 01	7.36E 00	4.16E 01
18 9.00 0.	0.	9.66E-02	0.	0.	0.	5.74E 00	1.65E 00	2.71E 01	7.32E 00	4.16E 01
19 8.90 0.	0.	9.11E-02	0.	0.	0.	5.78E 00	1.70E 00	2.72E 01	7.29E 00	4.16E 01
20 8.80 0.	0.	9.03E-02	0.	0.	0.	5.80E 00	1.76E 00	2.73E 01	7.26E 00	4.16E 01
21 8.70 0.	0.	8.02E-02	0.	0.	0.	5.82E 00	1.82E 00	2.74E 01	7.23E 00	4.16E 01
22 8.60 0.	0.	8.33E-02	0.	0.	0.	5.84E 00	1.89E 00	2.75E 01	7.19E 00	4.16E 01
23 8.50 0.	0.	7.44E-02	0.	0.	0.	5.86E 00	1.94E 00	2.76E 01	7.16E 00	4.16E 01
24 8.40 0.	0.	7.51E-02	0.	0.	0.	5.89E 00	2.03E 00	2.77E 01	7.13E 00	4.16E 01
25 8.30 0.	0.	6.52E-02	0.	0.	0.	5.92E 00	2.10E 00	2.78E 01	7.12E 00	4.16E 01
26 8.20 0.	0.	6.66E-02	0.	0.	0.	5.95E 00	2.18E 00	2.79E 01	7.12E 00	4.16E 01
27 8.10 0.	0.	5.88E-02	0.	0.	0.	5.98E 00	2.26E 00	2.80E 01	7.12E 00	4.16E 01
28 8.00 0.	0.	5.98E-02	0.	0.	0.	6.01E 00	2.35E 00	2.81E 01	7.12E 00	4.16E 01
29 7.90 0.	0.	5.25E-02	0.	0.	0.	6.04E 00	2.44E 00	2.82E 01	7.12E 00	4.16E 01
30 7.80 0.	0.	5.51E-02	0.	0.	0.	6.07E 00	2.54E 00	2.83E 01	7.12E 00	4.16E 01
31 7.70 0.	0.	4.94E-02	0.	0.	0.	6.10E 00	2.64E 00	2.84E 01	7.13E 00	4.16E 01
32 7.60 0.	0.	4.76E-02	0.	2.04E-06	0.	6.14E 00	2.75E 00	2.85E 01	7.13E 00	4.16E 01
33 7.50 0.	0.	4.50E-02	0.	6.31E-06	0.	6.17E 00	2.84E 00	2.86E 01	7.13E 00	4.16E 01
34 7.40 0.	0.	4.10E-02	0.	6.00E-05	0.	6.20E 00	2.96E 00	2.87E 01	7.13E 00	4.16E 01
35 7.30 0.	0.	3.95E-02	0.	2.27E-04	0.	6.24E 00	3.10E 00	2.88E 01	7.13E 00	4.16E 01
36 7.20 0.	0.	3.63E-02	0.	6.20E-04	0.	6.27E 00	3.24E 00	2.89E 01	7.13E 00	4.16E 01
37 7.10 0.	0.	3.54E-02	0.	1.99E-03	0.	6.32E 00	3.38E 00	2.90E 01	7.14E 00	4.16E 01
38 7.00 0.	0.	3.31E-02	0.	3.69E-03	0.	6.37E 00	3.52E 00	2.91E 01	7.14E 00	4.16E 01
39 6.90 0.	0.	3.09E-02	0.	5.59E-03	0.	6.42E 00	3.68E 00	2.92E 01	7.14E 00	4.16E 01
40 6.80 0.	0.	3.03E-02	0.	9.07E-03	0.	6.47E 00	3.85E 00	2.93E 01	7.14E 00	4.16E 01
41 6.70 0.	0.	2.70E-02	0.	8.64E-03	0.	6.53E 00	4.02E 00	2.94E 01	7.15E 00	4.16E 01
42 6.60 0.	0.	2.47E-02	0.	7.68E-03	0.	6.58E 00	4.21E 00	2.95E 01	7.17E 00	4.16E 01
43 6.50 0.	0.	2.02E-02	0.	1.06E-02	0.	6.63E 00	4.41E 00	2.96E 01	7.18E 00	4.16E 01
44 6.40 0.	0.	1.44E-02	3.11E-05	9.59E-03	0.	6.68E 00	4.63E 00	2.97E 01	7.20E 00	4.16E 01
45 6.30 0.	0.	2.29E-03	1.50E-04	7.48E-03	0.	6.73E 00	4.85E 00	2.98E 01	7.22E 00	4.16E 01
46 6.20 0.	0.	5.30E-03	2.17E-04	9.89E-03	0.	6.78E 00	5.09E 00	2.99E 01	7.27E 00	4.16E 01
47 6.10 0.	0.	2.56E-03	6.28E-04	1.17E-02	0.	6.83E 00	5.35E 00	3.00E 01	7.32E 00	4.16E 01
48 6.00 0.	0.	6.64E-04	6.23E-04	6.10E-03	0.	6.89E 00	5.63E 00	3.01E 01	7.37E 00	4.16E 01
49 5.90 0.	0.	4.77E-05	9.24E-04	5.86E-03	0.	6.89E 00	5.92E 00	3.02E 01	7.42E 00	4.16E 01
50 5.80 0.	0.	1.21E-06	1.31E-03	6.20E-03	0.	6.78E 00	6.24E 00	3.03E 01	7.46E 00	4.16E 01
51 5.70 0.	0.	0.	1.57E-03	6.94E-03	0.	6.37E 00	6.58E 00	3.04E 01	7.51E 00	4.16E 01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	PHOTO-DET (IONS)	O- FREE-FREE	N P.E.	O P.E.	TOTAL AIR	
52	5.60	1.04E-11	0.	0.	1.38E-03	8.87E-03	0.	0.	5.92E 00	6.94E 00	1.50E 01	7.57E 00	3.54E 01
53	5.50	0.	0.	0.	1.69E-03	8.20E-03	0.	0.	5.96E 00	7.33E 00	1.53E 01	7.64E 00	3.62E 01
54	5.40	0.	0.	0.	1.59E-03	6.94E-03	0.	0.	5.99E 00	7.75E 00	1.57E 01	7.72E 00	3.72E 01
55	5.30	0.	0.	0.	1.63E-03	8.53E-03	0.	0.	6.03E 00	8.20E 00	1.62E 01	7.82E 00	3.82E 01
56	5.20	0.	0.	0.	1.78E-03	6.86E-03	0.	0.	6.06E 00	8.69E 00	1.66E 01	7.94E 00	3.93E 01
57	5.10	0.	0.	0.	1.78E-03	8.70E-03	0.	0.	6.12E 00	9.22E 00	1.71E 01	8.07E 00	4.05E 01
58	5.00	1.48E-04	0.	0.	1.64E-03	8.38E-03	0.	0.	6.17E 00	9.79E 00	1.76E 01	8.19E 00	4.18E 01
59	4.90	3.68E-04	0.	0.	1.85E-03	9.31E-03	0.	0.	6.22E 00	1.04E 01	1.83E 01	8.34E 00	4.32E 01
60	4.80	7.05E-04	0.	0.	2.00E-03	8.81E-03	0.	0.	6.27E 00	1.11E 01	1.90E 01	8.52E 00	4.48E 01
61	4.70	9.71E-04	0.	0.	2.03E-03	8.07E-03	0.	0.	6.32E 00	1.18E 01	1.97E 01	8.75E 00	4.66E 01
62	4.60	1.36E-03	0.	0.	2.11E-03	7.31E-03	0.	0.	6.37E 00	1.26E 01	2.06E 01	8.99E 00	4.85E 01
63	4.50	1.46E-03	0.	0.	1.97E-03	5.53E-03	0.	0.	6.42E 00	1.35E 01	2.17E 01	9.24E 00	5.08E 01
64	4.40	1.58E-03	0.	0.	1.99E-03	3.75E-03	0.	0.	6.47E 00	1.44E 01	2.28E 01	9.49E 00	5.32E 01
65	4.30	1.52E-03	0.	0.	1.93E-03	2.40E-03	0.	0.	6.53E 00	1.55E 01	2.41E 01	9.76E 00	5.58E 01
66	4.20	1.44E-03	0.	0.	2.04E-03	1.63E-03	0.	0.	6.58E 00	1.66E 01	2.53E 01	1.00E 01	5.87E 01
67	4.10	1.37E-03	0.	0.	2.03E-03	4.65E-04	0.	0.	6.60E 00	1.79E 01	2.66E 01	9.97E 00	6.11E 01
68	4.00	1.28E-03	0.	0.	1.98E-03	3.46E-04	0.	0.	6.63E 00	1.93E 01	2.79E 01	5.26E 00	5.92E 01
69	3.90	1.11E-03	0.	0.	1.87E-03	1.27E-04	0.	0.	6.60E 00	2.08E 01	2.79E 01	5.43E 00	6.08E 01
70	3.80	1.22E-03	0.	0.	2.03E-03	0.	0.	0.	6.58E 00	2.25E 01	2.81E 01	5.67E 00	6.30E 01
71	3.70	1.11E-03	0.	0.	1.78E-03	0.	0.	0.	6.47E 00	2.43E 01	2.30E 01	6.17E 00	6.11E 01
72	3.60	1.02E-03	0.	0.	1.92E-03	0.	0.	0.	6.06E 00	2.66E 01	2.57E 01	6.72E 00	6.53E 01
73	3.50	9.67E-04	0.	0.	1.56E-03	0.	0.	0.	5.55E 00	2.90E 01	2.74E 01	7.35E 00	6.96E 01
74	3.40	9.04E-04	0.	0.	1.74E-03	0.	0.	0.	3.20E 00	3.17E 01	3.04E 01	8.08E 00	7.35E 01
75	3.30	7.31E-04	0.	0.	1.44E-03	0.	0.	0.	3.21E 00	3.47E 01	3.35E 01	8.81E 00	8.03E 01
76	3.20	6.50E-04	0.	0.	1.53E-03	0.	0.	0.	3.21E 00	3.81E 01	3.65E 01	9.58E 00	8.76E 01
77	3.10	6.33E-04	0.	0.	1.47E-03	0.	0.	0.	3.22E 00	4.20E 01	3.97E 01	1.03E 01	9.53E 01
78	3.00	5.79E-04	0.	0.	1.42E-03	0.	0.	0.	3.23E 00	4.64E 01	4.29E 01	1.11E 01	1.04E 02
79	2.90	4.97E-04	0.	0.	1.12E-03	0.	0.	0.	3.23E 00	5.14E 01	4.64E 01	1.20E 01	1.13E 02
80	2.80	5.25E-04	0.	0.	8.07E-04	0.	0.	0.	3.24E 00	5.73E 01	5.05E 01	1.30E 01	1.24E 02
81	2.70	3.49E-04	0.	0.	4.58E-04	0.	0.	0.	3.24E 00	6.40E 01	5.49E 01	1.41E 01	1.36E 02
82	2.60	1.71E-04	0.	0.	2.50E-04	0.	0.	0.	3.24E 00	7.19E 01	5.97E 01	1.52E 01	1.50E 02
83	2.50	1.22E-05	0.	0.	5.08E-05	0.	0.	0.	3.24E 00	8.10E 01	6.82E 01	1.62E 01	1.63E 02
84	2.40	0.	0.	0.	5.52E-04	0.	0.	0.	3.24E 00	9.18E 01	7.92E 01	1.18E 01	1.86E 02
85	2.30	0.	0.	0.	0.	0.	0.	0.	3.21E 00	1.04E 02	7.21E 01	1.40E 01	1.94E 02
86	2.20	0.	0.	0.	0.	0.	0.	0.	3.20E 00	1.20E 02	8.52E 01	1.67E 01	2.25E 02
87	2.10	0.	0.	0.	0.	0.	0.	0.	3.19E 00	1.34E 02	9.92E 01	1.93E 01	2.60E 02
88	2.00	0.	0.	0.	0.	0.	0.	0.	3.08E 00	1.54E 02	1.13E 02	2.20E 01	2.99E 02
89	1.90	0.	0.	0.	0.	0.	0.	0.	2.97E 00	1.76E 02	1.30E 02	2.58E 01	3.47E 02
90	1.80	0.	0.	0.	0.	0.	0.	0.	2.84E 00	2.22E 02	1.57E 02	3.16E 01	4.13E 02
91	1.70	0.	0.	0.	0.	0.	0.	0.	2.67E 00	2.65E 02	1.80E 02	3.84E 01	4.94E 02
92	1.60	0.	0.	0.	0.	0.	0.	0.	2.26E 00	3.19E 02	2.21E 02	4.53E 01	5.87E 02
93	1.50	0.	0.	0.	0.	0.	0.	0.	1.03E 00	3.88E 02	2.89E 02	5.49E 01	7.33E 02
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	4.79E 02	3.62E 02	6.57E 01	9.07E 02
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	6.01E 02	4.90E 02	8.62E 01	1.18E 03
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	7.69E 02	5.54E 02	8.70E 01	1.41E 03
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	1.01E 03	6.83E 02	1.09E 02	1.80E 03
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	1.35E 03	8.30E 02	1.24E 02	2.31E 03
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	1.87E 03	9.57E 02	1.45E 02	2.98E 03
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	2.70E 03	1.10E 03	1.67E 02	3.97E 03
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	4.09E 03	1.19E 03	1.66E 02	5.44E 03
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	6.61E 03	1.33E 03	1.85E 02	8.12E 03

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY E.V.	U2 S-R CONT.	U2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	U- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	9.95E-04	0.	0.	0.	1.15E-01	6.90E-02	1.98E 01	6.15E-01	2.06E 01
2 10.60 0.	0.	9.20E-04	0.	0.	0.	1.15E-01	7.10E-02	1.84E 00	6.13E-01	2.04E 00
3 10.50 0.	0.	9.39E-04	0.	0.	0.	1.15E-01	7.30E-02	1.85E 00	6.10E-01	2.65E 00
4 10.40 0.	0.	9.05E-04	0.	0.	0.	1.15E-01	7.52E-02	1.86E 00	6.07E-01	2.66E 00
5 10.30 0.	0.	8.04E-04	0.	0.	0.	1.15E-01	7.74E-02	1.86E 00	6.04E-01	2.66E 00
6 10.20 0.	0.	8.40E-04	0.	0.	0.	1.15E-01	7.98E-02	1.87E 00	6.01E-01	2.66E 00
7 10.10 0.	0.	8.00E-04	0.	0.	0.	1.16E-01	8.22E-02	1.86E 00	5.98E-01	2.66E 00
8 10.00 0.	0.	7.19E-04	0.	0.	0.	1.16E-01	8.47E-02	1.86E 00	5.95E-01	2.65E 00
9 9.90 0.	0.	7.41E-04	0.	0.	0.	1.16E-01	8.73E-02	1.86E 00	5.93E-01	2.66E 00
10 9.80 0.	0.	7.08E-04	0.	0.	0.	1.16E-01	9.00E-02	1.87E 00	5.90E-01	2.66E 00
11 9.70 0.	0.	6.25E-04	0.	0.	0.	1.16E-01	9.29E-02	1.87E 00	5.87E-01	2.67E 00
12 9.60 0.	0.	6.78E-04	0.	0.	0.	1.17E-01	9.59E-02	1.87E 00	5.84E-01	2.67E 00
13 9.50 0.	0.	5.93E-04	0.	0.	0.	1.17E-01	9.90E-02	1.88E 00	5.81E-01	2.68E 00
14 9.40 0.	0.	5.71E-04	0.	0.	0.	1.17E-01	1.02E-01	1.89E 00	5.78E-01	2.68E 00
15 9.30 0.	0.	5.88E-04	0.	0.	0.	1.18E-01	1.06E-01	1.89E 00	5.76E-01	2.69E 00
16 9.20 0.	0.	5.02E-04	0.	0.	0.	1.18E-01	1.09E-01	1.90E 00	5.73E-01	2.70E 00
17 9.10 0.	0.	5.18E-04	0.	0.	0.	1.19E-01	1.13E-01	1.90E-01	5.70E-01	1.59E 00
18 9.00 0.	0.	4.80E-04	0.	0.	0.	1.19E-01	1.17E-01	1.91E-01	5.67E-01	1.59E 00
19 8.90 0.	0.	4.52E-04	0.	0.	0.	1.19E-01	1.21E-01	1.92E-01	5.65E-01	1.60E 00
20 8.80 0.	0.	4.48E-04	0.	0.	0.	1.20E-01	1.25E-01	1.94E-01	5.62E-01	1.60E 00
21 8.70 0.	0.	3.98E-04	0.	0.	0.	1.20E-01	1.29E-01	1.96E-01	5.60E-01	1.61E 00
22 8.60 0.	0.	4.14E-04	0.	0.	0.	1.21E-01	1.34E-01	1.99E-01	5.57E-01	1.61E 00
23 8.50 0.	0.	3.71E-04	0.	0.	0.	1.21E-01	1.39E-01	2.02E-01	5.55E-01	1.62E 00
24 8.40 0.	0.	3.73E-04	0.	0.	0.	1.22E-01	1.44E-01	2.06E-01	5.53E-01	1.62E 00
25 8.30 0.	0.	3.24E-04	0.	0.	0.	1.22E-01	1.49E-01	2.10E-01	5.51E-01	1.63E 00
26 8.20 0.	0.	3.30E-04	0.	0.	0.	1.23E-01	1.55E-01	2.14E-01	5.52E-01	1.64E 00
27 8.10 0.	0.	2.92E-04	0.	0.	0.	1.24E-01	1.60E-01	2.18E-01	5.52E-01	1.65E 00
28 8.00 0.	0.	2.97E-04	0.	0.	0.	1.24E-01	1.67E-01	2.24E-01	5.52E-01	1.67E 00
29 7.90 0.	0.	2.61E-04	0.	0.	0.	1.25E-01	1.73E-01	2.31E-01	5.52E-01	1.68E 00
30 7.80 0.	0.	2.74E-04	0.	0.	0.	1.26E-01	1.80E-01	2.38E-01	5.52E-01	1.70E 00
31 7.70 0.	0.	2.45E-04	0.	0.	0.	1.26E-01	1.87E-01	2.45E-01	5.52E-01	1.71E 00
32 7.60 0.	0.	2.36E-04	0.	1.12E-08	0.	1.27E-01	1.95E-01	2.52E-01	5.52E-01	1.73E 00
33 7.50 0.	0.	2.23E-04	0.	3.44E-08	0.	1.27E-01	2.03E-01	2.57E-01	5.52E-01	1.74E 00
34 7.40 0.	0.	2.04E-04	0.	3.27E-07	0.	1.28E-01	2.11E-01	2.64E-01	5.53E-01	1.76E 00
35 7.30 0.	0.	1.96E-04	0.	1.21E-06	0.	1.29E-01	2.20E-01	2.71E-01	5.53E-01	1.77E 00
36 7.20 0.	0.	1.80E-04	0.	3.43E-06	0.	1.30E-01	2.29E-01	2.78E-01	5.53E-01	1.79E 00
37 7.10 0.	0.	1.76E-04	0.	1.08E-05	0.	1.31E-01	2.39E-01	2.85E-01	5.53E-01	1.81E 00
38 7.00 4.13E-08 0.	0.	1.64E-04	0.	2.01E-05	0.	1.32E-01	2.50E-01	2.92E-01	5.53E-01	1.83E 00
39 6.90 8.15E-08 0.	0.	1.53E-04	0.	3.05E-05	0.	1.33E-01	2.61E-01	2.99E-01	5.53E-01	1.85E 00
40 6.80 7.11E-08 0.	0.	1.50E-04	0.	4.95E-05	0.	1.34E-01	2.72E-01	3.07E-01	5.53E-01	1.87E 00
41 6.70 5.24E-08 0.	0.	1.34E-04	0.	4.71E-05	0.	1.35E-01	2.85E-01	3.14E-01	5.54E-01	1.89E 00
42 6.60 3.23E-08 0.	0.	1.23E-04	0.	4.19E-05	0.	1.36E-01	2.98E-01	3.24E-01	5.55E-01	1.91E 00
43 6.50 1.89E-08 0.	0.	1.00E-04	0.	5.79E-05	0.	1.37E-01	3.13E-01	3.34E-01	5.57E-01	1.94E 00
44 6.40 1.11E-08 0.	0.	7.14E-05	0.	1.70E-07 5.23E-05	0.	1.38E-01	3.28E-01	3.45E-01	5.58E-01	1.97E 00
45 6.30 6.48E-09 0.	0.	4.61E-05	0.	8.17E-07 4.08E-05	0.	1.39E-01	3.44E-01	3.57E-01	5.60E-01	2.00E 00
46 6.20 2.97E-09 0.	0.	2.63E-05	0.	1.18E-06 5.39E-05	0.	1.40E-01	3.61E-01	3.68E-01	5.64E-01	2.03E 00
47 6.10 1.39E-09 0.	0.	3.29E-06	0.	3.43E-06 6.40E-05	0.	1.41E-01	3.79E-01	3.80E-01	5.67E-01	2.07E 00
48 6.00 5.87E-10 0.	0.	3.29E-06	0.	3.39E-06 3.33E-05	0.	1.42E-01	3.99E-01	3.93E-01	5.71E-01	2.10E 00
49 5.90 1.46E-10 0.	0.	2.37E-07	0.	5.04E-06 3.20E-05	0.	1.42E-01	4.20E-01	4.01E 00	5.75E-01	2.15E 00
50 5.80 1.87E-11 0.	0.	6.00E-09	0.	7.13E-06 3.38E-05	0.	1.40E-01	4.42E-01	4.02E 00	5.78E-01	2.18E 00
51 5.70 1.36E-12 0.	0.	0.	0.	8.55E-06 3.79E-05	0.	1.32E-01	4.66E-01	4.04E 00	5.82E-01	2.22E 00

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON O2 S-R ENERGY RANOS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO	GAMMA	ND VIR-ROT	NH 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52	5.60	6.25E-14	0.	0.	7.53E-06	4.84E-05	0.	0.	1.22E-01	4.92E-01	1.06E 00	5.86E-01	2.26E 00
53	5.50	0.	0.	0.	9.21E-06	4.47E-05	0.	0.	1.23E-01	5.19E-01	1.08E 00	5.92E-01	2.32E 00
54	5.40	0.	0.	0.	8.68E-06	3.78E-05	0.	0.	1.24E-01	5.49E-01	1.11E 00	5.98E-01	2.38E 00
55	5.30	0.	0.	0.	8.89E-06	4.65E-05	0.	0.	1.25E-01	5.81E-01	1.14E 00	6.06E-01	2.46E 00
56	5.20	0.	0.	0.	9.68E-06	3.74E-05	0.	0.	1.25E-01	6.16E-01	1.17E 00	6.16E-01	2.53E 00
57	5.10	0.	0.	0.	9.72E-06	4.74E-05	0.	0.	1.26E-01	6.53E-01	1.21E 00	6.25E-01	2.61E 00
58	5.00	8.9CE-07	0.	0.	8.97E-06	4.57E-05	0.	0.	1.27E-01	6.94E-01	1.24E 00	6.35E-01	2.70E 00
59	4.90	2.21E-06	0.	0.	1.01E-05	5.08E-05	0.	0.	1.29E-01	7.37E-01	1.29E 00	6.46E-01	2.80E 00
60	4.80	4.22E-06	0.	0.	1.09E-05	4.81E-05	0.	0.	1.30E-01	7.85E-01	1.34E 00	6.60E-01	2.91E 00
61	4.70	5.82E-06	0.	0.	1.11E-05	4.40E-05	0.	0.	1.31E-01	8.37E-01	1.39E 00	6.78E-01	3.04E 00
62	4.60	8.16E-06	0.	0.	1.15E-05	3.99E-05	0.	0.	1.32E-01	8.93E-01	1.45E 00	6.97E-01	3.17E 00
63	4.50	8.73E-06	0.	1.72E-05	1.07E-05	3.02E-05	0.	0.	1.33E-01	9.54E-01	1.53E 00	7.16E-01	3.33E 00
64	4.40	9.49E-06	0.	4.91E-05	1.08E-05	2.05E-05	0.	0.	1.34E-01	1.02E 00	1.61E 00	7.36E-01	3.50E 00
65	4.30	9.12E-06	0.	1.73E-04	1.05E-05	1.31E-05	0.	0.	1.35E-01	1.09E 00	1.79E 00	7.57E-01	3.68E 00
66	4.20	8.62E-06	0.	5.22E-04	1.11E-05	8.90E-06	0.	0.	1.36E-01	1.18E 00	1.88E 00	7.73E-01	4.05E 00
67	4.10	8.20E-06	0.	2.50E-04	1.11E-05	2.53E-06	0.	0.	1.36E-01	1.26E 00	1.97E 00	7.73E-01	4.05E 00
68	4.00	7.66E-06	0.	7.60E-04	1.08E-05	1.89E-06	0.	0.	1.37E-01	1.36E 00	1.97E 00	4.07E-01	3.88E 00
69	3.90	6.63E-06	0.	3.64E-04	1.02E-05	6.92E-07	0.	0.	1.37E-01	1.47E 00	1.97E 00	4.21E-01	4.00E 00
70	3.80	7.33E-06	0.	5.94E-04	1.10E-05	0.	0.	0.	1.36E-01	1.60E 00	1.98E 00	4.39E-01	4.16E 00
71	3.70	6.67E-06	0.	5.94E-04	9.70E-06	0.	0.	0.	1.34E-01	1.73E 00	1.88E 00	4.78E-01	4.03E 00
72	3.60	6.10E-06	0.	4.49E-04	1.52E-03	1.05E-05	0.	0.	1.25E-01	1.88E 00	1.82E 00	5.21E-01	4.35E 00
73	3.50	5.79E-06	0.	5.77E-04	2.57E-03	8.51E-06	0.	0.	1.15E-01	2.05E 00	1.94E 00	5.70E-01	4.68E 00
74	3.40	5.42E-06	0.	3.87E-04	4.63E-04	9.61E-06	0.	0.	6.62E-02	2.24E 00	2.15E 00	6.26E-01	5.08E 00
75	3.30	4.38E-06	0.	3.95E-04	1.64E-03	7.86E-06	0.	0.	6.63E-02	2.46E 00	2.36E 00	6.83E-01	5.57E 00
76	3.20	3.89E-06	0.	2.67E-04	2.45E-03	8.34E-06	0.	0.	6.64E-02	2.70E 00	2.58E 00	7.42E-01	6.09E 00
77	3.10	3.80E-06	0.	2.10E-04	7.38E-04	8.03E-06	0.	0.	6.66E-02	2.97E 00	2.80E 00	8.02E-01	6.65E 00
78	3.00	3.47E-06	0.	1.31E-04	1.54E-03	7.74E-06	0.	0.	6.67E-02	3.29E 00	3.03E 00	8.62E-01	7.25E 00
79	2.90	2.98E-06	0.	8.37E-05	8.28E-04	6.09E-06	0.	0.	6.68E-02	3.64E 00	3.28E 00	9.31E-01	7.92E 00
80	2.80	3.15E-06	0.	4.04E-05	6.05E-04	4.40E-06	0.	0.	6.69E-02	4.06E 00	3.57E 00	1.01E 00	8.70E 00
81	2.70	2.09E-06	0.	1.91E-05	7.23E-04	2.50E-06	0.	0.	6.69E-02	4.53E 00	3.88E 00	1.09E 00	9.57E 00
82	2.60	1.02E-06	0.	9.09E-06	7.81E-05	1.14E-06	0.	0.	6.69E-02	5.09E 00	4.21E 00	1.18E 00	1.05E 01
83	2.50	7.29E-08	0.	9.29E-07	7.69E-05	2.77E-07	0.	0.	6.69E-02	5.74E 00	4.81E 00	7.91E-01	1.14E 01
84	2.40	0.	3.98E-05	0.	5.63E-05	3.01E-08	0.	0.	6.69E-02	6.50E 00	5.59E 00	9.13E-01	1.31E 01
85	2.30	0.	1.12E-04	0.	0.	0.	0.	0.	6.69E-02	7.40E 00	5.09E 00	1.09E 00	1.36E 01
86	2.20	0.	3.08E-04	0.	0.	0.	0.	0.	6.61E-02	8.47E 00	6.01E 00	1.29E 00	1.58E 01
87	2.10	0.	3.05E-04	0.	0.	0.	0.	0.	6.59E-02	9.76E 00	6.99E 00	1.50E 00	1.83E 01
88	2.00	0.	6.19E-04	0.	0.	0.	0.	0.	6.37E-02	1.13E 01	7.99E 00	1.71E 00	2.11E 01
89	1.90	0.	7.05E-04	0.	0.	0.	0.	0.	6.13E-02	1.33E 01	9.19E 00	2.00E 00	2.46E 01
90	1.80	0.	6.12E-04	0.	0.	0.	0.	0.	5.86E-02	1.57E 01	1.10E 01	2.45E 00	2.93E 01
91	1.70	0.	6.85E-04	0.	0.	0.	0.	0.	5.52E-02	1.87E 01	1.33E 01	2.98E 00	3.51E 01
92	1.60	0.	5.23E-04	0.	0.	0.	0.	0.	4.67E-02	2.26E 01	1.56E 01	3.51E 00	4.17E 01
93	1.50	0.	5.89E-04	0.	0.	0.	0.	0.	2.12E-02	2.75E 01	2.03E 01	4.25E 00	5.21E 01
94	1.40	0.	5.78E-04	0.	0.	0.	0.	0.	0.	3.40E 01	2.55E 01	5.09E 00	6.46E 01
95	1.30	0.	4.42E-04	0.	0.	0.	0.	0.	0.	4.26E 01	3.45E 01	6.68E 00	8.38E 01
96	1.20	0.	4.22E-04	0.	0.	0.	0.	0.	0.	5.45E 01	3.91E 01	6.74E 00	1.00E 02
97	1.10	0.	4.14E-04	0.	0.	0.	4.54E-10	0.	0.	7.13E 01	4.82E 01	8.42E 00	1.28E 02
98	1.00	0.	3.81E-04	0.	0.	0.	7.76E-09	0.	0.	9.58E 01	5.85E 01	9.62E 00	1.64E 02
99	0.90	0.	3.12E-04	0.	0.	0.	9.15E-09	0.	0.	1.33E 02	6.75E 01	1.13E 01	2.11E 02
100	0.80	0.	1.46E-04	0.	0.	0.	2.04E-07	0.	0.	1.91E 02	7.77E 01	1.29E 01	2.82E 02
101	0.70	0.	3.34E-05	0.	0.	0.	2.00E-07	0.	0.	2.90E 02	8.36E 01	1.28E 01	3.86E 02
102	0.60	0.	8.11E-06	0.	0.	0.	6.15E-07	0.	0.	4.68E 02	9.36E 01	1.43E 01	5.76E 02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON ENERGY E.V.	O2 S-R CONT.	N2 S-H NO. 1	NU META	NO GAMMA	NO 2	O- PHOTO-DEY (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	1.38E-06	0.	0.	0.	9.72E-04	2.64E-03	7.35E-01	2.67E-02	7.65E-01
2 10.60 0.	0.	1.27E-06	0.	0.	0.	9.73E-04	2.71E-03	6.80E-02	2.66E-02	9.83E-02
3 10.50 0.	0.	1.30E-06	0.	0.	0.	9.75E-04	2.79E-03	6.83E-02	2.64E-02	9.85E-02
4 10.40 0.	0.	1.25E-06	0.	0.	0.	9.76E-04	2.87E-03	6.86E-02	2.63E-02	9.87E-02
5 10.30 0.	0.	1.11E-06	0.	0.	0.	9.77E-04	2.96E-03	6.88E-02	2.62E-02	9.89E-02
6 10.20 0.	0.	1.16E-06	0.	0.	0.	9.79E-04	3.05E-03	6.89E-02	2.61E-02	9.90E-02
7 10.10 0.	0.	1.11E-06	0.	0.	0.	9.80E-04	3.14E-03	6.87E-02	2.59E-02	9.87E-02
8 10.00 0.	0.	9.93E-07	0.	0.	0.	9.81E-04	3.24E-03	6.75E-02	2.58E-02	9.76E-02
9 9.90 0.	0.	1.02E-06	0.	0.	0.	9.83E-04	3.34E-03	6.77E-02	2.57E-02	9.77E-02
10 9.80 0.	0.	9.79E-07	0.	0.	0.	9.85E-04	3.44E-03	6.78E-02	2.56E-02	9.78E-02
11 9.70 0.	0.	8.64E-07	0.	0.	0.	9.86E-04	3.55E-03	6.80E-02	2.54E-02	9.80E-02
12 9.60 0.	0.	9.37E-07	0.	0.	0.	9.88E-04	3.66E-03	6.82E-02	2.53E-02	9.81E-02
13 9.50 0.	0.	8.19E-07	0.	0.	0.	9.90E-04	3.78E-03	6.83E-02	2.52E-02	9.83E-02
14 9.40 0.	0.	7.89E-07	0.	0.	0.	9.94E-04	3.91E-03	6.85E-02	2.51E-02	9.85E-02
15 9.30 0.	0.	8.13E-07	0.	0.	0.	9.97E-04	4.04E-03	6.87E-02	2.50E-02	9.87E-02
16 9.20 0.	0.	6.94E-07	0.	0.	0.	1.00E-03	4.17E-03	6.89E-02	2.48E-02	9.89E-02
17 9.10 0.	0.	7.16E-07	0.	0.	0.	1.00E-03	4.31E-03	2.77E-02	2.47E-02	5.78E-02
18 9.00 0.	0.	6.63E-07	0.	0.	0.	1.01E-03	4.44E-03	2.77E-02	2.46E-02	5.78E-02
19 8.90 0.	0.	6.25E-07	0.	0.	0.	1.01E-03	4.61E-03	2.77E-02	2.45E-02	5.79E-02
20 8.80 0.	0.	6.20E-07	0.	0.	0.	1.01E-03	4.77E-03	2.78E-02	2.44E-02	5.80E-02
21 8.70 0.	0.	5.51E-07	0.	0.	0.	1.02E-03	4.94E-03	2.78E-02	2.43E-02	5.81E-02
22 8.60 0.	0.	5.72E-07	0.	0.	0.	1.02E-03	5.12E-03	2.79E-02	2.42E-02	5.82E-02
23 8.50 0.	0.	5.13E-07	0.	0.	0.	1.03E-03	5.30E-03	2.80E-02	2.41E-02	5.84E-02
24 8.40 0.	0.	5.15E-07	0.	0.	0.	1.03E-03	5.49E-03	2.81E-02	2.40E-02	5.86E-02
25 8.30 0.	0.	4.47E-07	0.	0.	0.	1.04E-03	5.70E-03	2.82E-02	2.39E-02	5.89E-02
26 8.20 0.	0.	4.57E-07	0.	0.	0.	1.04E-03	5.91E-03	2.84E-02	2.39E-02	5.92E-02
27 8.10 0.	0.	4.03E-07	0.	0.	0.	1.05E-03	6.13E-03	2.85E-02	2.39E-02	5.96E-02
28 8.00 0.	0.	4.10E-07	0.	0.	0.	1.05E-03	6.37E-03	2.87E-02	2.39E-02	6.00E-02
29 7.90 0.	0.	3.60E-07	0.	0.	0.	1.06E-03	6.62E-03	2.89E-02	2.39E-02	6.05E-02
30 7.80 0.	0.	3.78E-07	0.	0.	0.	1.06E-03	6.88E-03	2.91E-02	2.39E-02	6.10E-02
31 7.70 0.	0.	3.39E-07	0.	0.	0.	1.07E-03	7.15E-03	2.94E-02	2.39E-02	6.15E-02
32 7.60 0.	0.	3.27E-07	0.	1.81E-11	0.	1.07E-03	7.44E-03	2.96E-02	2.39E-02	6.21E-02
33 7.50 0.	0.	3.08E-07	0.	5.55E-11	0.	1.08E-03	7.74E-03	2.96E-02	2.40E-02	6.24E-02
34 7.40 0.	0.	2.81E-07	0.	5.28E-10	0.	1.09E-03	8.07E-03	2.98E-02	2.40E-02	6.29E-02
35 7.30 0.	0.	2.71E-07	0.	1.95E-09	0.	1.09E-03	8.41E-03	3.01E-02	2.40E-02	6.35E-02
36 7.20 0.	0.	2.49E-07	0.	5.52E-09	0.	1.10E-03	8.76E-03	3.03E-02	2.40E-02	6.41E-02
37 7.10 0.	0.	2.43E-07	0.	1.75E-08	0.	1.11E-03	9.14E-03	3.06E-02	2.40E-02	6.44E-02
38 7.00 7.76E-11	0.	2.27E-07	0.	3.24E-08	0.	1.12E-03	9.54E-03	3.08E-02	2.40E-02	6.55E-02
39 6.90 1.53E-10	0.	2.12E-07	0.	4.91E-08	0.	1.12E-03	9.97E-03	3.11E-02	2.40E-02	6.62E-02
40 6.80 1.33E-10	0.	2.08E-07	0.	7.97E-08	0.	1.13E-03	1.04E-02	3.13E-02	2.40E-02	6.69E-02
41 6.70 9.84E-11	0.	1.85E-07	0.	7.59E-08	0.	1.14E-03	1.09E-02	3.16E-02	2.40E-02	6.77E-02
42 6.60 6.06E-11	0.	1.70E-07	0.	6.75E-08	0.	1.15E-03	1.14E-02	3.19E-02	2.41E-02	6.86E-02
43 6.50 3.54E-11	0.	1.38E-07	0.	9.33E-08	0.	1.16E-03	1.19E-02	3.22E-02	2.41E-02	6.95E-02
44 6.40 2.06E-11	0.	9.86E-08	2.74E-10	8.43E-08	0.	1.17E-03	1.25E-02	3.26E-02	2.42E-02	7.05E-02
45 6.30 1.22E-11	0.	6.37E-08	1.32E-09	6.57E-08	0.	1.18E-03	1.31E-02	3.30E-02	2.43E-02	7.16E-02
46 6.20 5.5E-12	0.	3.64E-08	1.91E-09	8.69E-08	0.	1.19E-03	1.38E-02	3.34E-02	2.44E-02	7.29E-02
47 6.10 2.61E-12	0.	1.76E-08	5.52E-09	1.03E-07	0.	1.20E-03	1.45E-02	3.39E-02	2.46E-02	7.42E-02
48 6.00 1.1E-12	0.	4.55E-09	5.47E-09	5.34E-08	0.	1.21E-03	1.52E-02	3.43E-02	2.48E-02	7.56E-02
49 5.90 2.74E-13	0.	3.27E-10	8.12E-09	5.15E-08	0.	1.21E-03	1.60E-02	3.49E-02	2.49E-02	7.71E-02
50 5.80 3.51E-14	0.	8.29E-12	1.15E-08	5.45E-08	0.	1.19E-03	1.69E-02	3.55E-02	2.51E-02	7.87E-02
51 5.70 2.59E-15	0.	0.	1.38E-08	6.10E-08	0.	1.12E-03	1.78E-02	3.61E-02	2.53E-02	8.03E-02



TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)
23000.	1.293E-04	(1.0E-01 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N P.E.	O P.E.	TOTAL AIR	
52	5.60	1.17E-16	0.	0.	1.21E-08	7.80E-08	0.	1.04E-03	1.88E-02	3.66E-02	2.54E-02	8.19E-02
53	5.50	0.	0.	0.	1.48E-08	7.21E-08	0.	1.04E-03	1.99E-02	3.74E-02	2.57E-02	8.39E-02
54	5.40	0.	0.	0.	1.40E-08	6.10E-08	0.	1.05E-03	2.10E-02	3.83E-02	2.60E-02	8.63E-02
55	5.30	0.	0.	0.	1.43E-08	7.50E-08	0.	1.05E-03	2.22E-02	3.93E-02	2.63E-02	8.89E-02
56	5.20	0.	0.	0.	1.56E-08	6.02E-08	0.	1.06E-03	2.35E-02	3.94E-02	2.67E-02	9.07E-02
57	5.10	0.	0.	0.	1.57E-08	7.64E-08	0.	1.07E-03	2.50E-02	4.05E-02	2.71E-02	9.37E-02
58	5.00	1.67E-09	0.	0.	1.45E-08	7.36E-08	0.	1.08E-03	2.65E-02	4.18E-02	2.75E-02	9.64E-02
59	4.90	4.15E-09	0.	0.	1.63E-08	8.18E-08	0.	1.09E-03	2.82E-02	4.33E-02	2.80E-02	1.01E-01
60	4.80	7.94E-09	0.	0.	1.76E-08	7.75E-08	0.	1.10E-03	3.00E-02	4.49E-02	2.86E-02	1.05E-01
61	4.70	1.09E-08	0.	0.	1.79E-08	7.09E-08	0.	1.11E-03	3.20E-02	4.67E-02	2.94E-02	1.09E-01
62	4.60	1.54E-08	0.	0.	1.85E-08	6.42E-08	0.	1.12E-03	3.41E-02	4.87E-02	3.02E-02	1.14E-01
63	4.50	1.64E-08	0.	2.37E-08	1.73E-08	4.04E-08	0.	1.12E-03	3.65E-02	5.15E-02	3.10E-02	1.20E-01
64	4.40	1.78E-08	0.	6.79E-08	1.75E-08	3.30E-08	0.	1.13E-03	3.90E-02	5.43E-02	3.19E-02	1.26E-01
65	4.30	1.71E-08	0.	2.40E-07	1.70E-08	2.11E-08	0.	1.14E-03	4.19E-02	5.74E-02	3.28E-02	1.33E-01
66	4.20	1.62E-08	0.	7.22E-07	1.79E-08	1.45E-08	0.	1.15E-03	4.50E-02	6.06E-02	3.37E-02	1.40E-01
67	4.10	1.54E-08	0.	3.45E-07	1.78E-08	4.08E-09	0.	1.16E-03	4.84E-02	6.38E-02	3.35E-02	1.47E-01
68	4.00	1.44E-08	0.	1.05E-06	1.74E-08	3.04E-09	0.	1.16E-03	5.22E-02	6.70E-02	1.77E-02	1.36E-01
69	3.90	1.25E-08	0.	5.06E-07	1.64E-08	1.12E-09	0.	1.16E-03	5.64E-02	6.67E-02	1.83E-02	1.43E-01
70	3.80	1.38E-08	0.	8.21E-07	4.30E-06	1.78E-08	0.	1.15E-03	6.11E-02	6.71E-02	1.91E-02	1.48E-01
71	3.70	1.25E-08	0.	8.21E-07	2.16E-06	1.56E-08	0.	1.13E-03	6.62E-02	5.54E-02	2.07E-02	1.44E-01
72	3.60	1.15E-08	0.	6.20E-07	1.07E-05	1.69E-08	0.	1.06E-03	7.20E-02	6.03E-02	2.26E-02	1.56E-01
73	3.50	1.09E-08	0.	7.90E-07	1.82E-05	1.37E-08	0.	9.72E-04	7.85E-02	6.43E-02	2.47E-02	1.69E-01
74	3.40	1.02E-08	0.	5.35E-07	3.27E-06	1.55E-08	0.	5.61E-04	8.58E-02	7.15E-02	2.72E-02	1.85E-01
75	3.30	8.23E-09	0.	3.46E-07	1.16E-05	1.27E-08	0.	5.67E-04	9.39E-02	7.89E-02	2.96E-02	2.03E-01
76	3.20	7.32E-09	0.	3.69E-07	1.73E-05	1.34E-08	0.	5.63E-04	1.03E-01	8.64E-02	3.22E-02	2.22E-01
77	3.10	7.13E-09	0.	2.91E-07	5.21E-06	1.29E-08	0.	5.64E-04	1.14E-01	9.42E-02	3.48E-02	2.43E-01
78	3.00	6.52E-09	0.	1.81E-07	1.09E-05	1.25E-08	0.	5.65E-04	1.26E-01	1.02E-01	3.74E-02	2.64E-01
79	2.90	5.60E-09	0.	1.16E-07	5.85E-06	9.82E-09	0.	5.66E-04	1.39E-01	1.11E-01	4.04E-02	2.91E-01
80	2.80	5.91E-09	0.	5.58E-08	4.28E-06	7.09E-09	0.	5.67E-04	1.55E-01	1.21E-01	4.38E-02	3.20E-01
81	2.70	3.93E-09	0.	2.64E-08	5.11E-06	4.03E-09	0.	5.67E-04	1.73E-01	1.32E-01	4.75E-02	3.53E-01
82	2.60	1.92E-09	0.	1.26E-08	5.52E-07	1.83E-09	0.	5.67E-04	1.95E-01	1.42E-01	5.12E-02	3.88E-01
83	2.50	1.37E-10	0.	1.28E-07	5.44E-07	4.47E-10	0.	5.67E-04	2.19E-01	1.62E-01	5.43E-02	4.17E-01
84	2.40	0.	5.50E-08	3.98E-07	4.85E-11	0.	0.	5.67E-04	2.48E-01	1.90E-01	5.79E-02	4.78E-01
85	2.30	0.	1.55E-07	0.	0.	0.	0.	5.63E-04	2.83E-01	1.69E-01	4.71E-02	5.00E-01
86	2.20	0.	4.25E-07	0.	0.	0.	0.	5.60E-04	3.24E-01	2.02E-01	5.60E-02	5.83E-01
87	2.10	0.	4.21E-07	0.	0.	0.	0.	5.58E-04	3.73E-01	2.37E-01	6.49E-02	6.75E-01
88	2.00	0.	8.56E-07	0.	0.	0.	0.	5.40E-04	4.34E-01	2.72E-01	7.39E-02	7.80E-01
89	1.90	0.	9.75E-07	0.	0.	0.	0.	5.19E-04	5.08E-01	3.15E-01	8.68E-02	9.11E-01
90	1.80	0.	8.46E-07	0.	0.	0.	0.	4.97E-04	6.01E-01	3.82E-01	1.06E-01	1.09E-00
91	1.70	0.	9.47E-07	0.	0.	0.	0.	4.68E-04	7.17E-01	4.64E-01	1.29E-01	1.31E-00
92	1.60	0.	7.23E-07	0.	0.	0.	0.	3.96E-04	8.63E-01	5.47E-01	1.52E-01	1.56E-00
93	1.50	0.	8.15E-07	0.	0.	0.	0.	3.96E-04	1.05E-00	7.22E-01	1.84E-01	1.96E-00
94	1.40	0.	7.98E-07	0.	0.	0.	0.	1.80E-04	1.05E-00	9.13E-01	2.21E-01	2.43E-00
95	1.30	0.	6.11E-07	0.	0.	0.	0.	0.	1.30E-00	1.29E-00	2.90E-01	3.20E-00
96	1.20	0.	5.83E-07	0.	0.	0.	0.	0.	1.63E-00	1.45E-00	2.92E-01	3.83E-00
97	1.10	0.	5.72E-07	0.	0.	7.31E-13	0.	0.	2.73E-00	1.79E-00	3.65E-01	4.88E-00
98	1.00	0.	5.26E-07	0.	0.	1.25E-11	0.	0.	3.66E-00	2.18E-00	4.17E-01	6.25E-00
99	0.90	0.	4.31E-07	0.	0.	1.47E-11	0.	0.	5.07E-00	2.51E-00	4.88E-01	8.07E-00
100	0.80	0.	2.02E-07	0.	0.	3.28E-10	0.	0.	7.30E-00	2.89E-00	5.60E-01	1.08E-01
101	0.70	0.	4.62E-08	0.	0.	3.23E-10	0.	0.	1.11E-01	3.11E-00	5.56E-01	1.47E-01
102	0.60	0.	1.12E-08	0.	0.	9.91E-10	0.	0.	1.79E-01	3.48E-00	6.22E-01	2.20E-01



TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY E.V.	U2 S-R CONT.	N2 B-H NO. 1	NU BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	3.32E-10	0.	0.	0.	2.09E-06	4.24E-05	1.16E-02	4.57E-04	1.21E-02
2 10.60 0.	0.	3.07E-10	0.	0.	0.	2.09E-06	4.37E-05	1.24E-03	4.55E-04	1.74E-03
3 10.50 0.	0.	3.13E-10	0.	0.	0.	2.09E-06	4.49E-05	1.25E-03	4.52E-04	1.75E-03
4 10.40 0.	0.	3.02E-10	0.	0.	0.	2.10E-06	4.63E-05	1.26E-03	4.50E-04	1.76E-03
5 10.30 0.	0.	2.68E-10	0.	0.	0.	2.10E-06	4.76E-05	1.26E-03	4.48E-04	1.76E-03
6 10.20 0.	0.	2.80E-10	0.	0.	0.	2.10E-06	4.91E-05	1.27E-03	4.46E-04	1.77E-03
7 10.10 0.	0.	2.67E-10	0.	0.	0.	2.10E-06	5.06E-05	1.27E-03	4.44E-04	1.77E-03
8 10.00 0.	0.	2.40E-10	0.	0.	0.	2.11E-06	5.21E-05	1.11E-03	4.42E-04	1.61E-03
9 9.90 0.	0.	2.47E-10	0.	0.	0.	2.11E-06	5.37E-05	1.11E-03	4.39E-04	1.61E-03
10 9.80 0.	0.	2.36E-10	0.	0.	0.	2.11E-06	5.54E-05	1.12E-03	4.37E-04	1.61E-03
11 9.70 0.	0.	2.09E-10	0.	0.	0.	2.12E-06	5.72E-05	1.12E-03	4.35E-04	1.62E-03
12 9.60 0.	0.	2.26E-10	0.	0.	0.	2.12E-06	5.90E-05	1.13E-03	4.33E-04	1.62E-03
13 9.50 0.	0.	1.98E-10	0.	0.	0.	2.13E-06	6.09E-05	1.13E-03	4.31E-04	1.62E-03
14 9.40 0.	0.	1.91E-10	0.	0.	0.	2.13E-06	6.29E-05	1.13E-03	4.29E-04	1.63E-03
15 9.30 0.	0.	1.96E-10	0.	0.	0.	2.14E-06	6.49E-05	1.14E-03	4.27E-04	1.63E-03
16 9.20 0.	0.	1.68E-10	0.	0.	0.	2.15E-06	6.71E-05	1.14E-03	4.25E-04	1.64E-03
17 9.10 0.	0.	1.73E-10	0.	0.	0.	2.16E-06	6.94E-05	5.02E-04	4.23E-04	9.97E-04
18 9.00 0.	0.	1.60E-10	0.	0.	0.	2.16E-06	7.17E-05	5.03E-04	4.21E-04	9.98E-04
19 8.90 0.	0.	1.51E-10	0.	0.	0.	2.17E-06	7.42E-05	5.05E-04	4.19E-04	1.00E-03
20 8.80 0.	0.	1.50E-10	0.	0.	0.	2.18E-06	7.68E-05	5.06E-04	4.18E-04	1.00E-03
21 8.70 0.	0.	1.33E-10	0.	0.	0.	2.19E-06	7.95E-05	5.08E-04	4.16E-04	1.01E-03
22 8.60 0.	0.	1.38E-10	0.	0.	0.	2.20E-06	8.23E-05	5.10E-04	4.14E-04	1.01E-03
23 8.50 0.	0.	1.24E-10	0.	0.	0.	2.20E-06	8.53E-05	5.13E-04	4.12E-04	1.01E-03
24 8.40 0.	0.	1.24E-10	0.	0.	0.	2.22E-06	8.84E-05	5.15E-04	4.11E-04	1.02E-03
25 8.30 0.	0.	1.08E-10	0.	0.	0.	2.23E-06	9.17E-05	5.19E-04	4.10E-04	1.02E-03
26 8.20 0.	0.	1.10E-10	0.	0.	0.	2.24E-06	9.51E-05	5.23E-04	4.10E-04	1.03E-03
27 8.10 0.	0.	9.74E-11	0.	0.	0.	2.25E-06	9.87E-05	5.27E-04	4.10E-04	1.04E-03
28 8.00 0.	0.	9.90E-11	0.	0.	0.	2.26E-06	1.02E-04	5.32E-04	4.09E-04	1.05E-03
29 7.90 0.	0.	8.70E-11	0.	0.	0.	2.27E-06	1.06E-04	5.37E-04	4.09E-04	1.06E-03
30 7.80 0.	0.	9.13E-11	0.	0.	0.	2.28E-06	1.11E-04	5.43E-04	4.10E-04	1.07E-03
31 7.70 0.	0.	8.18E-11	0.	0.	0.	2.30E-06	1.15E-04	5.48E-04	4.10E-04	1.08E-03
32 7.60 0.	0.	7.88E-11	0.	4.77E-15	0.	2.31E-06	1.20E-04	5.55E-04	4.10E-04	1.09E-03
33 7.50 0.	0.	7.45E-11	0.	1.47E-14	0.	2.32E-06	1.25E-04	5.25E-04	4.10E-04	1.06E-03
34 7.40 0.	0.	6.79E-11	0.	1.39E-13	0.	2.33E-06	1.30E-04	5.32E-04	4.10E-04	1.07E-03
35 7.30 0.	0.	6.55E-11	0.	5.15E-13	0.	2.35E-06	1.35E-04	5.38E-04	4.11E-04	1.09E-03
36 7.20 0.	0.	6.01E-11	0.	1.46E-12	0.	2.36E-06	1.41E-04	5.46E-04	4.11E-04	1.10E-03
37 7.10 0.	0.	5.87E-11	0.	4.62E-12	0.	2.38E-06	1.47E-04	5.53E-04	4.11E-04	1.11E-03
38 7.00 2.24E-14	0.	5.48E-11	0.	8.57E-12	0.	2.40E-06	1.54E-04	5.61E-04	4.11E-04	1.13E-03
39 6.90 4.43E-14	0.	5.12E-11	0.	1.30E-11	0.	2.42E-06	1.60E-04	5.68E-04	4.12E-04	1.14E-03
40 6.80 3.86E-14	0.	5.02E-11	0.	2.11E-11	0.	2.44E-06	1.68E-04	5.76E-04	4.12E-04	1.16E-03
41 6.70 2.84E-14	0.	4.48E-11	0.	2.01E-11	0.	2.45E-06	1.75E-04	5.84E-04	4.13E-04	1.17E-03
42 6.60 1.75E-14	0.	4.09E-11	0.	1.78E-11	0.	2.47E-06	1.84E-04	5.93E-04	4.14E-04	1.19E-03
43 6.50 1.02E-14	0.	3.34E-11	0.	2.47E-11	0.	2.49E-06	1.92E-04	5.88E-04	4.15E-04	1.20E-03
44 6.40 5.97E-15	0.	2.38E-11	7.23E-14	2.23E-11	0.	2.51E-06	2.02E-04	5.98E-04	4.16E-04	1.22E-03
45 6.30 3.52E-15	0.	1.54E-11	3.48E-13	1.74E-11	0.	2.53E-06	2.11E-04	6.07E-04	4.18E-04	1.24E-03
46 6.20 1.61E-15	0.	8.79E-12	5.05E-13	2.30E-11	0.	2.55E-06	2.22E-04	6.17E-04	4.21E-04	1.26E-03
47 6.10 7.54E-16	0.	4.25E-12	1.46E-12	2.73E-11	0.	2.57E-06	2.33E-04	6.28E-04	4.24E-04	1.29E-03
48 6.00 3.17E-16	0.	1.10E-12	1.45E-12	1.42E-11	0.	2.59E-06	2.45E-04	6.39E-04	4.27E-04	1.31E-03
49 5.90 7.93E-17	0.	7.90E-14	2.15E-12	1.36E-11	0.	2.59E-06	2.58E-04	6.51E-04	4.30E-04	1.34E-03
50 5.80 1.01E-17	0.	2.00E-15	3.04E-12	1.44E-11	0.	2.55E-06	2.72E-04	6.64E-04	4.33E-04	1.37E-03
51 5.70 7.48E-19	0.	0.	3.64E-12	1.61E-11	0.	2.40E-06	2.87E-04	6.77E-04	4.36E-04	1.40E-03

TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)
23000.	1.293E-05	(10.0E-03 NORMAL)

PHOTON D2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO RETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IUNS)	FREE-FREE (IUNS)	N P.E.	U P.E.	TOTAL AIR
52	5.60	3.40E-20	0.	0.	3.21E-12	2.06E-11	0.	2.23E-06	3.02E-04	6.91E-04	4.39E-04	1.43E-03
53	5.50	0.	0.	0.	3.92E-12	1.91E-11	0.	2.24E-06	3.19E-04	7.07E-04	4.43E-04	1.47E-03
54	5.40	0.	0.	0.	3.69E-12	1.61E-11	0.	2.25E-06	3.38E-04	7.27E-04	4.48E-04	1.51E-03
55	5.30	0.	0.	0.	3.78E-12	1.98E-11	0.	2.27E-06	3.57E-04	7.47E-04	4.54E-04	1.56E-03
56	5.20	0.	0.	0.	4.12E-12	1.59E-11	0.	2.28E-06	3.79E-04	6.61E-04	4.61E-04	1.50E-03
57	5.10	0.	0.	0.	4.14E-12	2.02E-11	0.	2.30E-06	4.02E-04	6.81E-04	4.63E-04	1.55E-03
58	5.00	4.83E-13	0.	0.	3.62E-12	1.95E-11	0.	2.32E-06	4.27E-04	7.03E-04	4.71E-04	1.60E-03
59	4.90	1.20E-12	0.	0.	4.30E-12	2.16E-11	0.	2.34E-06	4.54E-04	7.29E-04	4.79E-04	1.66E-03
60	4.80	2.29E-12	0.	0.	4.65E-12	2.05E-11	0.	2.36E-06	4.83E-04	7.57E-04	4.90E-04	1.73E-03
61	4.70	3.16E-12	0.	0.	4.72E-12	1.87E-11	0.	2.38E-06	5.15E-04	7.88E-04	5.03E-04	1.81E-03
62	4.60	4.44E-12	0.	0.	4.90E-12	1.70E-11	0.	2.40E-06	5.49E-04	8.25E-04	5.17E-04	1.89E-03
63	4.50	4.74E-12	0.	5.73E-12	4.56E-12	1.28E-11	0.	2.42E-06	5.87E-04	8.72E-04	5.31E-04	1.99E-03
64	4.40	5.16E-12	0.	1.64E-11	4.62E-12	8.71E-12	0.	2.44E-06	6.28E-04	9.20E-04	5.46E-04	2.10E-03
65	4.30	4.96E-12	0.	5.78E-11	4.48E-12	5.57E-12	0.	2.45E-06	6.74E-04	9.74E-04	5.61E-04	2.21E-03
66	4.20	4.68E-12	0.	1.74E-10	4.73E-12	3.79E-12	0.	2.47E-06	7.23E-04	1.03E-03	5.77E-04	2.33E-03
67	4.10	4.46E-12	0.	8.33E-11	4.71E-12	1.08E-12	0.	2.48E-06	7.78E-04	1.08E-03	5.73E-04	2.44E-03
68	4.00	4.16E-12	0.	2.53E-10	4.60E-12	8.34E-13	0.	2.49E-06	8.40E-04	1.14E-03	3.04E-04	2.29E-03
69	3.90	3.60E-12	0.	1.22E-10	4.34E-12	2.95E-13	0.	2.48E-06	9.07E-04	1.14E-03	3.14E-04	2.37E-03
70	3.80	3.98E-12	0.	1.98E-10	4.22E-09	4.71E-12	0.	2.47E-06	9.82E-04	1.15E-03	3.28E-04	2.47E-03
71	3.70	3.52E-12	0.	1.98E-10	4.13E-09	4.13E-12	0.	2.44E-06	1.07E-03	9.86E-04	3.57E-04	2.41E-03
72	3.60	3.31E-12	0.	1.50E-10	2.05E-08	4.46E-12	0.	2.28E-06	1.16E-03	1.06E-03	3.89E-04	2.61E-03
73	3.50	3.15E-12	0.	1.93E-10	3.48E-08	3.62E-12	0.	2.09E-06	1.26E-03	1.13E-03	4.26E-04	2.82E-03
74	3.40	2.94E-12	0.	1.29E-10	6.26E-09	4.09E-12	0.	1.20E-06	1.38E-03	1.25E-03	4.67E-04	3.10E-03
75	3.30	2.38E-12	0.	1.32E-10	2.21E-08	3.35E-12	0.	1.21E-06	1.51E-03	1.37E-03	5.09E-04	3.39E-03
76	3.20	2.12E-12	0.	8.91E-11	3.31E-08	3.55E-12	0.	1.21E-06	1.66E-03	1.50E-03	5.53E-04	3.71E-03
77	3.10	2.06E-12	0.	7.02E-11	9.97E-09	3.42E-12	0.	1.21E-06	1.83E-03	1.63E-03	5.98E-04	4.06E-03
78	3.00	1.86E-12	0.	4.38E-11	2.09E-08	3.30E-12	0.	1.21E-06	2.02E-03	1.76E-03	6.43E-04	4.43E-03
79	2.90	1.62E-12	0.	2.79E-11	1.12E-08	2.59E-12	0.	1.22E-06	2.24E-03	1.91E-03	6.94E-04	4.84E-03
80	2.80	1.71E-12	0.	1.35E-11	8.19E-09	1.87E-12	0.	1.22E-06	2.49E-03	2.08E-03	7.52E-04	5.32E-03
81	2.70	1.14E-12	0.	6.37E-12	9.77E-09	1.06E-12	0.	1.22E-06	2.79E-03	2.26E-03	8.16E-04	5.87E-03
82	2.60	5.56E-13	0.	3.03E-12	1.06E-09	4.85E-13	0.	1.22E-06	3.13E-03	2.30E-03	8.79E-04	6.32E-03
83	2.50	3.96E-14	0.	3.10E-13	1.04E-09	1.18E-13	0.	1.22E-06	3.53E-03	2.62E-03	5.92E-04	6.75E-03
84	2.40	0.	1.33E-11	0.	7.61E-10	1.28E-14	0.	1.22E-06	4.00E-03	3.06E-03	6.81E-04	7.74E-03
85	2.30	0.	3.74E-11	0.	0.	0.	0.	1.21E-06	4.55E-03	3.27E-03	8.08E-04	8.12E-03
86	2.20	0.	1.03E-10	0.	0.	0.	0.	1.20E-06	5.21E-03	3.28E-03	9.60E-04	9.45E-03
87	2.10	0.	1.02E-10	0.	0.	0.	0.	1.20E-06	6.00E-03	3.83E-03	1.11E-03	1.10E-02
88	2.00	0.	2.07E-10	0.	0.	0.	0.	1.16E-06	6.98E-03	4.39E-03	1.27E-03	1.26E-02
89	1.90	0.	2.35E-10	0.	0.	0.	0.	1.12E-06	8.18E-03	5.08E-03	1.49E-03	1.47E-02
90	1.80	0.	2.04E-10	0.	0.	0.	0.	1.07E-06	9.66E-03	6.13E-03	1.81E-03	1.76E-02
91	1.70	0.	2.29E-10	0.	0.	0.	0.	1.00E-06	1.15E-02	7.42E-03	2.21E-03	2.12E-02
92	1.60	0.	1.74E-10	0.	0.	0.	0.	8.51E-07	1.39E-02	8.72E-03	2.60E-03	2.52E-02
93	1.50	0.	1.97E-10	0.	0.	0.	0.	3.87E-07	1.69E-02	1.15E-02	3.15E-03	3.15E-02
94	1.40	0.	1.93E-10	0.	0.	0.	0.	0.	2.09E-02	1.44E-02	3.76E-03	3.91E-02
95	1.30	0.	1.48E-10	0.	0.	0.	0.	0.	2.62E-02	2.02E-02	4.94E-03	5.14E-02
96	1.20	0.	1.41E-10	0.	0.	0.	0.	0.	3.35E-02	2.29E-02	4.98E-03	6.14E-02
97	1.10	0.	1.38E-10	0.	0.	1.93E-16	0.	0.	4.38E-02	2.80E-02	6.21E-03	7.81E-02
98	1.00	0.	1.27E-10	0.	0.	3.31E-15	0.	0.	5.89E-02	3.40E-02	7.10E-03	9.99E-02
99	0.90	0.	1.04E-10	0.	0.	3.90E-15	0.	0.	8.15E-02	3.92E-02	8.31E-03	1.29E-01
100	0.80	0.	4.88E-11	0.	0.	8.67E-14	0.	0.	1.17E-01	4.51E-02	9.53E-03	1.72E-01
101	0.70	0.	1.11E-11	0.	0.	8.54E-14	0.	0.	1.78E-01	4.85E-02	9.46E-03	2.36E-01
102	0.60	0.	2.71E-12	0.	0.	2.62E-13	0.	0.	2.88E-01	5.43E-02	1.06E-02	3.52E-01

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		23000.	DENSITY (GM/CC)		1.293E-06	(10.0E-04 NORMAL)		O- PHOTO-DET (IONS)		FREE-FREE (IONS)		N P.E.		O P.E.		TOTAL AIR	
PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 R-H NO. 1	NO BETA	NO GAMMA	NO	2	0-	0-	0-	0-	0-	0-	0-	0-	0-	0-
1 10.70 0.		0.	3.72E-14	0.	0.	0.	0.	2.50E-09	5.25E-07	3.15E-05	5.40E-06	3.74E-05					
2 10.60 0.		0.	3.44E-14	0.	0.	0.	0.	2.51E-09	5.40E-07	3.19E-05	5.32E-06	3.77E-05					
3 10.50 0.		0.	3.51E-14	0.	0.	0.	0.	2.51E-09	5.56E-07	3.23E-05	5.29E-06	3.81E-05					
4 10.40 0.		0.	3.38E-14	0.	0.	0.	0.	2.51E-09	5.72E-07	3.26E-05	5.27E-06	3.85E-05					
5 10.30 0.		0.	3.00E-14	0.	0.	0.	0.	2.52E-09	5.89E-07	3.30E-05	5.25E-06	3.88E-05					
6 10.20 0.		0.	3.14E-14	0.	0.	0.	0.	2.52E-09	6.07E-07	3.34E-05	5.23E-06	3.93E-05					
7 10.10 0.		0.	2.99E-14	0.	0.	0.	0.	2.52E-09	6.25E-07	3.38E-05	5.21E-06	3.96E-05					
8 10.00 0.		0.	2.68E-14	0.	0.	0.	0.	2.53E-09	6.45E-07	1.80E-05	5.19E-06	2.38E-05					
9 9.90 0.		0.	2.77E-14	0.	0.	0.	0.	2.53E-09	6.64E-07	1.81E-05	5.17E-06	2.39E-05					
10 9.80 0.		0.	2.64E-14	0.	0.	0.	0.	2.54E-09	6.85E-07	1.82E-05	5.15E-06	2.41E-05					
11 9.70 0.		0.	2.33E-14	0.	0.	0.	0.	2.54E-09	7.07E-07	1.84E-05	5.13E-06	2.42E-05					
12 9.60 0.		0.	2.53E-14	0.	0.	0.	0.	2.55E-09	7.29E-07	1.85E-05	5.11E-06	2.44E-05					
13 9.50 0.		0.	2.21E-14	0.	0.	0.	0.	2.55E-09	7.53E-07	1.87E-05	5.09E-06	2.45E-05					
14 9.40 0.		0.	2.13E-14	0.	0.	0.	0.	2.56E-09	7.77E-07	1.88E-05	5.07E-06	2.47E-05					
15 9.30 0.		0.	2.20E-14	0.	0.	0.	0.	2.57E-09	8.03E-07	1.90E-05	5.06E-06	2.48E-05					
16 9.20 0.		0.	1.88E-14	0.	0.	0.	0.	2.58E-09	8.30E-07	1.91E-05	5.04E-06	2.50E-05					
17 9.10 0.		0.	1.93E-14	0.	0.	0.	0.	2.59E-09	8.58E-07	1.24E-05	5.02E-06	1.83E-05					
18 9.00 0.		0.	1.79E-14	0.	0.	0.	0.	2.60E-09	8.87E-07	1.26E-05	5.00E-06	1.85E-05					
19 8.90 0.		0.	1.69E-14	0.	0.	0.	0.	2.61E-09	9.18E-07	1.27E-05	4.99E-06	1.86E-05					
20 8.80 0.		0.	1.67E-14	0.	0.	0.	0.	2.62E-09	9.50E-07	1.28E-05	4.97E-06	1.87E-05					
21 8.70 0.		0.	1.49E-14	0.	0.	0.	0.	2.63E-09	9.83E-07	1.29E-05	4.96E-06	1.89E-05					
22 8.60 0.		0.	1.55E-14	0.	0.	0.	0.	2.63E-09	1.02E-06	1.31E-05	4.94E-06	1.90E-05					
23 8.50 0.		0.	1.39E-14	0.	0.	0.	0.	2.64E-09	1.05E-06	1.32E-05	4.93E-06	1.92E-05					
24 8.40 0.		0.	1.39E-14	0.	0.	0.	0.	2.66E-09	1.09E-06	1.34E-05	4.91E-06	1.94E-05					
25 8.30 0.		0.	1.21E-14	0.	0.	0.	0.	2.67E-09	1.13E-06	1.35E-05	4.90E-06	1.96E-05					
26 8.20 0.		0.	1.23E-14	0.	0.	0.	0.	2.69E-09	1.18E-06	1.38E-05	4.92E-06	1.99E-05					
27 8.10 0.		0.	1.09E-14	0.	0.	0.	0.	2.70E-09	1.22E-06	1.40E-05	4.82E-06	2.00E-05					
28 8.00 0.		0.	1.11E-14	0.	0.	0.	0.	2.71E-09	1.27E-06	1.42E-05	4.81E-06	2.03E-05					
29 7.90 0.		0.	9.74E-15	0.	0.	0.	0.	2.73E-09	1.32E-06	1.45E-05	4.82E-06	2.06E-05					
30 7.80 0.		0.	1.02E-14	0.	0.	0.	0.	2.74E-09	1.37E-06	1.47E-05	4.83E-06	2.09E-05					
31 7.70 0.		0.	9.15E-15	0.	0.	0.	0.	2.75E-09	1.42E-06	1.50E-05	4.84E-06	2.13E-05					
32 7.60 0.		0.	8.82E-15	0.	5.63E-19	0.	0.	2.77E-09	1.48E-06	1.18E-05	4.84E-06	1.82E-05					
33 7.50 0.		0.	8.33E-15	0.	1.73E-18	0.	0.	2.78E-09	1.54E-06	1.21E-05	4.87E-06	1.86E-05					
34 7.40 0.		0.	7.60E-15	0.	1.65E-17	0.	0.	2.80E-09	1.60E-06	1.25E-05	4.88E-06	1.90E-05					
35 7.30 0.		0.	7.33E-15	0.	6.08E-17	0.	0.	2.81E-09	1.67E-06	1.28E-05	4.90E-06	1.94E-05					
36 7.20 0.		0.	6.73E-15	0.	1.72E-16	0.	0.	2.83E-09	1.74E-06	1.33E-05	4.92E-06	1.99E-05					
37 7.10 0.		0.	6.57E-15	0.	5.45E-16	0.	0.	2.85E-09	1.82E-06	1.37E-05	4.94E-06	2.05E-05					
38 7.00 0.	2.79E-18	0.	6.14E-15	0.	1.01E-15	0.	0.	2.88E-09	1.90E-06	1.42E-05	4.96E-06	2.10E-05					
39 6.90 0.	5.51E-18	0.	5.72E-15	0.	1.53E-15	0.	0.	2.90E-09	1.98E-06	1.46E-05	4.98E-06	2.16E-05					
40 6.80 0.	4.80E-18	0.	5.62E-15	0.	2.49E-15	0.	0.	2.92E-09	2.07E-06	1.50E-05	5.00E-06	2.21E-05					
41 6.70 0.	3.54E-18	0.	5.01E-15	0.	2.37E-15	0.	0.	2.95E-09	2.17E-06	1.55E-05	5.03E-06	2.27E-05					
42 6.60 0.	2.18E-18	0.	4.58E-15	0.	2.10E-15	0.	0.	2.97E-09	2.27E-06	1.45E-05	5.04E-06	2.19E-05					
43 6.50 0.	1.28E-18	0.	3.74E-15	0.	2.91E-15	0.	0.	2.99E-09	2.38E-06	1.50E-05	5.09E-06	2.24E-05					
44 6.40 0.	7.43E-19	0.	2.67E-15	8.54E-18	2.63E-15	0.	0.	3.01E-09	2.49E-06	1.54E-05	5.12E-06	2.30E-05					
45 6.30 0.	4.38E-19	0.	1.72E-15	4.11E-17	2.05E-15	0.	0.	3.04E-09	2.61E-06	1.58E-05	5.14E-06	2.36E-05					
46 6.20 0.	2.01E-19	0.	9.83E-16	5.95E-17	2.71E-15	0.	0.	3.06E-09	2.74E-06	1.63E-05	5.21E-06	2.43E-05					
47 6.10 0.	9.36E-20	0.	4.75E-16	1.72E-16	3.22E-15	0.	0.	3.08E-09	2.88E-06	1.68E-05	5.27E-06	2.50E-05					
48 6.00 0.	3.97E-20	0.	1.23E-16	1.71E-16	1.67E-15	0.	0.	3.11E-09	3.03E-06	1.73E-05	5.32E-06	2.56E-05					
49 5.90 0.	9.87E-21	0.	8.84E-18	2.53E-16	1.61E-15	0.	0.	3.11E-09	3.19E-06	1.78E-05	5.37E-06	2.64E-05					
50 5.80 0.	1.26E-21	0.	2.24E-19	3.58E-16	1.70E-15	0.	0.	3.06E-09	3.36E-06	1.83E-05	5.43E-06	2.71E-05					
51 5.70 0.	9.31E-23	0.	0.	4.29E-16	1.90E-15	0.	0.	2.88E-09	3.54E-06	1.89E-05	5.48E-06	2.79E-05					

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON 02 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	NO VIB-ROT	NO	PHOTO-OET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52 5.60 4.23E-24 0.	0.	0.	0.	3.78E-16 2.43E-15 0.	0.	0.	0.	2.67E-09 3.74E-06 1.95E-05 5.54E-06 2.88E-05				
53 5.50 0. 0.	0.	0.	0.	4.63E-16 2.25E-15 0.	0.	0.	0.	2.69E-09 3.95E-06 2.02E-05 5.61E-06 2.97E-05				
54 5.40 0. 0.	0.	0.	0.	4.36E-16 1.90E-15 0.	0.	0.	0.	2.70E-09 4.17E-06 2.09E-05 5.70E-06 3.08E-05				
55 5.30 0. 0.	0.	0.	0.	4.47E-16 2.34E-15 0.	0.	0.	0.	2.72E-09 4.42E-06 1.14E-05 5.79E-06 3.16E-05				
56 5.20 0. 0.	0.	0.	0.	4.86E-16 1.88E-15 0.	0.	0.	0.	2.74E-09 4.68E-06 1.19E-05 5.34E-06 3.19E-05				
57 5.10 0. 0.	0.	0.	0.	4.88E-16 2.38E-15 0.	0.	0.	0.	2.76E-09 4.96E-06 1.23E-05 5.44E-06 2.27E-05				
58 5.00 6.02E-17 0.	0.	0.	0.	4.51E-16 2.30E-15 0.	0.	0.	0.	2.78E-09 5.27E-06 1.28E-05 5.53E-06 2.36E-05				
59 4.90 1.49E-16 0.	0.	0.	0.	5.07E-16 2.55E-15 0.	0.	0.	0.	2.81E-09 5.60E-06 1.34E-05 5.64E-06 2.46E-05				
60 4.80 2.86E-16 0.	0.	0.	0.	5.49E-16 2.42E-15 0.	0.	0.	0.	2.83E-09 5.94E-06 1.39E-05 5.77E-06 2.56E-05				
61 4.70 3.94E-16 0.	0.	0.	0.	5.57E-16 2.21E-15 0.	0.	0.	0.	2.85E-09 6.35E-06 1.46E-05 5.93E-06 2.69E-05				
62 4.60 5.33E-16 0.	0.	0.	0.	5.78E-16 2.00E-15 0.	0.	0.	0.	2.88E-09 6.78E-06 1.55E-05 6.10E-06 2.84E-05				
63 4.50 5.94E-16 0.	0.	0.	0.	5.39E-16 1.52E-15 0.	0.	0.	0.	2.90E-09 7.25E-06 1.65E-05 6.28E-06 3.00E-05				
64 4.40 6.42E-16 0.	0.	0.	0.	5.45E-16 1.03E-15 0.	0.	0.	0.	2.92E-09 7.76E-06 1.74E-05 6.37E-06 3.16E-05				
65 4.30 6.17E-16 0.	0.	0.	0.	5.29E-16 6.50E-16 0.	0.	0.	0.	2.95E-09 8.32E-06 1.85E-05 6.57E-06 3.34E-05				
66 4.20 5.83E-16 0.	0.	0.	0.	5.59E-16 4.47E-16 0.	0.	0.	0.	2.97E-09 8.93E-06 1.96E-05 6.78E-06 3.54E-05				
67 4.10 5.55E-16 0.	0.	0.	0.	5.55E-16 1.27E-16 0.	0.	0.	0.	2.98E-09 9.61E-06 2.08E-05 6.76E-06 3.72E-05				
68 4.00 5.16E-16 0.	0.	0.	0.	5.43E-16 9.48E-17 0.	0.	0.	0.	2.99E-09 1.04E-05 2.20E-05 3.79E-06 3.82E-05				
69 3.90 4.49E-16 0.	0.	0.	0.	5.12E-16 3.48E-17 0.	0.	0.	0.	2.98E-09 1.12E-05 2.25E-05 3.93E-06 3.74E-05				
70 3.80 4.96E-16 0.	0.	0.	0.	2.22E-14 8.55E-12 5.55E-16 0.	0.	0.	0.	2.97E-09 1.21E-05 2.11E-05 4.12E-06 3.73E-05				
71 3.70 4.51E-16 0.	0.	0.	0.	2.22E-14 4.30E-12 4.88E-16 0.	0.	0.	0.	2.92E-09 1.31E-05 2.22E-05 4.47E-06 3.98E-05				
72 3.60 4.13E-16 0.	0.	0.	0.	1.68E-14 2.14E-11 5.27E-16 0.	0.	0.	0.	2.74E-09 1.43E-05 2.35E-05 4.85E-06 4.27E-05				
73 3.50 3.92E-16 0.	0.	0.	0.	2.16E-14 3.62E-11 4.28E-16 0.	0.	0.	0.	2.50E-09 1.56E-05 2.49E-05 5.29E-06 4.58E-05				
74 3.40 3.66E-16 0.	0.	0.	0.	1.45E-14 6.51E-12 4.83E-16 0.	0.	0.	0.	1.44E-09 1.76E-05 2.69E-05 5.76E-06 4.97E-05				
75 3.30 2.96E-16 0.	0.	0.	0.	1.48E-14 2.30E-11 3.95E-16 0.	0.	0.	0.	1.44E-09 1.86E-05 2.89E-05 6.26E-06 5.38E-05				
76 3.20 2.63E-16 0.	0.	0.	0.	9.98E-15 3.44E-11 4.19E-16 0.	0.	0.	0.	1.45E-09 2.05E-05 3.12E-05 6.81E-06 5.85E-05				
77 3.10 2.57E-16 0.	0.	0.	0.	7.86E-15 1.04E-11 4.04E-16 0.	0.	0.	0.	1.45E-09 2.26E-05 3.37E-05 7.36E-06 6.36E-05				
78 3.00 2.35E-16 0.	0.	0.	0.	4.90E-15 2.17E-11 3.89E-16 0.	0.	0.	0.	1.46E-09 2.49E-05 3.62E-05 7.91E-06 6.91E-05				
79 2.90 2.01E-16 0.	0.	0.	0.	3.13E-15 1.16E-11 3.06E-16 0.	0.	0.	0.	1.46E-09 2.76E-05 3.89E-05 8.54E-06 7.50E-05				
80 2.80 2.13E-16 0.	0.	0.	0.	1.51E-15 8.51E-12 2.21E-16 0.	0.	0.	0.	1.46E-09 3.08E-05 4.17E-05 9.25E-06 8.18E-05				
81 2.70 1.41E-16 0.	0.	0.	0.	7.13E-16 1.02E-11 1.26E-16 0.	0.	0.	0.	1.46E-09 3.44E-05 3.15E-05 9.90E-06 7.58E-05				
82 2.60 6.92E-17 0.	0.	0.	0.	3.39E-16 1.10E-12 5.72E-17 0.	0.	0.	0.	1.46E-09 3.86E-05 3.33E-05 1.07E-05 8.26E-05				
83 2.50 4.93E-18 0.	0.	0.	0.	3.47E-17 1.08E-12 1.39E-17 0.	0.	0.	0.	1.46E-09 4.35E-05 3.74E-05 7.21E-06 8.82E-05				
84 2.40 0. 1.49E-15 0.	0.	0.	0.	7.92E-13 1.51E-18 0.	0.	0.	0.	1.46E-09 4.93E-05 3.52E-05 8.39E-06 9.29E-05				
85 2.30 0. 4.19E-15 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	1.45E-09 5.61E-05 4.19E-05 9.71E-06 1.00E-04				
86 2.20 0. 1.15E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	1.44E-09 6.42E-05 4.88E-05 1.15E-05 1.24E-04				
87 2.10 0. 1.14E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	1.44E-09 7.40E-05 5.60E-05 1.32E-05 1.43E-04				
88 2.00 0. 2.31E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	1.39E-09 8.60E-05 6.33E-05 1.50E-05 1.64E-04				
89 1.90 0. 2.63E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	1.34E-09 1.01E-04 7.19E-05 1.76E-05 1.90E-04				
90 1.80 0. 2.29E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	1.28E-09 1.19E-04 8.44E-05 2.13E-05 2.25E-04				
91 1.70 0. 2.56E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	1.21E-09 1.42E-04 9.94E-05 2.58E-05 2.67E-04				
92 1.60 0. 1.95E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	1.02E-09 1.71E-04 1.15E-04 3.02E-05 3.16E-04				
93 1.50 0. 2.20E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	4.64E-10 2.08E-04 1.45E-04 3.64E-05 3.90E-04				
94 1.40 0. 2.16E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 2.57E-04 1.78E-04 4.33E-05 4.78E-04				
95 1.30 0. 1.65E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 3.23E-04 2.41E-04 5.25E-05 6.16E-04				
96 1.20 0. 1.58E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 4.12E-04 2.54E-04 5.62E-05 7.22E-04				
97 1.10 0. 1.54E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 5.40E-04 3.10E-04 7.01E-05 9.20E-04				
98 1.00 0. 1.42E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 7.24E-04 3.74E-04 8.00E-05 1.18E-03				
99 0.90 0. 1.16E-14 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 1.00E-03 4.30E-04 9.36E-05 1.53E-03				
100 0.80 0. 5.46E-15 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 1.44E-03 4.94E-04 1.07E-04 2.04E-03				
101 0.70 0. 1.25E-15 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 2.19E-03 5.31E-04 1.06E-04 2.82E-03				
102 0.60 0. 3.03E-16 0.	0.	0.	0.	0. 0. 0.	0.	0.	0.	0. 3.53E-03 5.42E-04 1.19E-04 4.19E-03				

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-K CONT.	42 H-H NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1 10.70 0.		0.	2.91E-18	0.	0.	0.	3.46E-12	10.00E-09	1.60E-06	8.30E-08	1.70E-06
2 10.60 0.		0.	2.70E-18	0.	0.	0.	3.47E-12	1.03E-08	1.63E-06	8.34E-08	1.72E-06
3 10.50 0.		0.	2.75E-18	0.	0.	0.	3.47E-12	1.04E-08	5.69E-07	8.34E-08	6.63E-07
4 10.40 0.		0.	2.65E-18	0.	0.	0.	3.48E-12	1.09E-08	5.74E-07	8.32E-08	6.68E-07
5 10.30 0.		0.	2.35E-18	0.	0.	0.	3.48E-12	1.12E-08	5.79E-07	8.30E-08	6.73E-07
6 10.20 0.		0.	2.46E-18	0.	0.	0.	3.49E-12	1.16E-08	5.87E-07	8.30E-08	6.82E-07
7 10.10 0.		0.	2.34E-18	0.	0.	0.	3.49E-12	1.19E-08	5.96E-07	8.32E-08	6.91E-07
8 10.00 0.		0.	2.10E-18	0.	0.	0.	3.50E-12	1.23E-08	6.04E-07	8.33E-08	7.00E-07
9 9.90 0.		0.	2.17E-18	0.	0.	0.	3.50E-12	1.26E-08	6.13E-07	8.34E-08	7.09E-07
10 9.80 0.		0.	2.07E-18	0.	0.	0.	3.51E-12	1.30E-08	6.22E-07	8.36E-08	7.18E-07
11 9.70 0.		0.	1.83E-18	0.	0.	0.	3.52E-12	1.34E-08	6.30E-07	8.37E-08	7.27E-07
12 9.60 0.		0.	1.99E-18	0.	0.	0.	3.52E-12	1.39E-08	6.39E-07	8.38E-08	7.36E-07
13 9.50 0.		0.	1.74E-18	0.	0.	0.	3.53E-12	1.43E-08	6.47E-07	8.39E-08	7.46E-07
14 9.40 0.		0.	1.67E-18	0.	0.	0.	3.54E-12	1.48E-08	6.56E-07	8.41E-08	7.55E-07
15 9.30 0.		0.	1.72E-18	0.	0.	0.	3.55E-12	1.53E-08	6.64E-07	8.43E-08	7.65E-07
16 9.20 0.		0.	1.47E-18	0.	0.	0.	3.57E-12	1.58E-08	6.74E-07	8.45E-08	7.75E-07
17 9.10 0.		0.	1.52E-18	0.	0.	0.	3.58E-12	1.63E-08	6.83E-07	8.47E-08	7.84E-07
18 9.00 0.		0.	1.40E-18	0.	0.	0.	3.59E-12	1.69E-08	6.92E-07	8.49E-08	7.94E-07
19 8.90 0.		0.	1.32E-18	0.	0.	0.	3.61E-12	1.74E-08	7.01E-07	8.51E-08	8.04E-07
20 8.80 0.		0.	1.31E-18	0.	0.	0.	3.62E-12	1.80E-08	7.10E-07	8.53E-08	8.14E-07
21 8.70 0.		0.	1.17E-18	0.	0.	0.	3.63E-12	1.87E-08	7.19E-07	8.55E-08	8.24E-07
22 8.60 0.		0.	1.21E-18	0.	0.	0.	3.64E-12	1.93E-08	7.28E-07	8.57E-08	8.34E-07
23 8.50 0.		0.	1.09E-18	0.	0.	0.	3.66E-12	2.00E-08	7.37E-07	8.59E-08	8.44E-07
24 8.40 0.		0.	1.09E-18	0.	0.	0.	3.68E-12	2.08E-08	7.46E-07	8.61E-08	8.54E-07
25 8.30 0.		0.	9.48E-19	0.	0.	0.	3.70E-12	2.15E-08	7.55E-07	8.63E-08	8.64E-07
26 8.20 0.		0.	9.68E-19	0.	0.	0.	3.71E-12	2.23E-08	7.64E-07	8.65E-08	8.74E-07
27 8.10 0.		0.	8.55E-19	0.	0.	0.	3.73E-12	2.32E-08	7.73E-07	8.67E-08	8.84E-07
28 8.00 0.		0.	8.69E-19	0.	0.	0.	3.75E-12	2.41E-08	7.82E-07	8.69E-08	8.94E-07
29 7.90 0.		0.	7.64E-19	0.	0.	0.	3.77E-12	2.50E-08	7.91E-07	8.71E-08	9.04E-07
30 7.80 0.		0.	8.01E-19	0.	0.	0.	3.79E-12	2.60E-08	8.00E-07	8.73E-08	9.14E-07
31 7.70 0.		0.	7.18E-19	0.	0.	0.	3.81E-12	2.70E-08	8.09E-07	8.75E-08	9.24E-07
32 7.60 0.		0.	6.92E-19	0.	5.69E-23	0.	3.83E-12	2.81E-08	8.18E-07	8.77E-08	9.34E-07
33 7.50 0.		0.	6.54E-19	0.	1.75E-22	0.	3.85E-12	2.92E-08	8.27E-07	8.79E-08	9.44E-07
34 7.40 0.		0.	5.96E-19	0.	1.64E-21	0.	3.87E-12	3.05E-08	8.36E-07	8.81E-08	9.54E-07
35 7.30 0.		0.	5.75E-19	0.	6.13E-21	0.	3.89E-12	3.17E-08	8.45E-07	8.83E-08	9.64E-07
36 7.20 0.		0.	5.28E-19	0.	1.74E-20	0.	3.91E-12	3.31E-08	8.54E-07	8.85E-08	9.74E-07
37 7.10 0.		0.	5.15E-19	0.	5.50E-20	0.	3.93E-12	3.45E-08	8.63E-07	8.87E-08	9.84E-07
38 7.00 3.62E-22		0.	4.81E-19	0.	1.02E-19	0.	3.95E-12	3.60E-08	8.72E-07	8.89E-08	9.94E-07
39 6.90 7.15E-22		0.	4.49E-19	0.	1.54E-19	0.	4.01E-12	3.76E-08	8.81E-07	8.91E-08	1.00E-07
40 6.80 6.73E-22		0.	4.41E-19	0.	2.51E-19	0.	4.04E-12	3.93E-08	8.90E-07	8.93E-08	1.01E-07
41 6.70 4.66E-22		0.	3.93E-19	0.	2.39E-19	0.	4.07E-12	4.11E-08	9.00E-07	8.95E-08	1.02E-07
42 6.60 2.83E-22		0.	3.59E-19	0.	2.12E-19	0.	4.11E-12	4.30E-08	9.09E-07	8.97E-08	1.03E-07
43 6.50 1.66E-22		0.	2.93E-19	0.	2.94E-19	0.	4.14E-12	4.51E-08	9.18E-07	8.99E-08	1.04E-07
44 6.40 9.64E-23		0.	2.09E-19	8.62E-22	2.65E-19	0.	4.17E-12	4.72E-08	9.27E-07	9.01E-08	1.05E-07
45 6.30 5.69E-23		0.	1.35E-19	4.14E-21	2.07E-19	0.	4.20E-12	4.95E-08	9.36E-07	9.03E-08	1.06E-07
46 6.20 2.61E-23		0.	7.71E-20	6.01E-21	2.74E-19	0.	4.23E-12	5.20E-08	9.45E-07	9.05E-08	1.07E-07
47 6.10 1.22E-23		0.	3.73E-20	1.74E-20	3.25E-19	0.	4.27E-12	5.46E-08	9.54E-07	9.07E-08	1.08E-07
48 6.00 5.16E-24		0.	9.65E-21	1.72E-20	1.69E-19	0.	4.30E-12	5.74E-08	9.63E-07	9.09E-08	1.09E-07
49 5.90 1.28E-24		0.	6.93E-22	2.56E-20	1.62E-19	0.	4.34E-12	6.04E-08	9.72E-07	9.11E-08	1.10E-07
50 5.80 1.64E-25		0.	1.76E-23	3.62E-20	1.72E-19	0.	4.38E-12	6.37E-08	9.81E-07	9.13E-08	1.11E-07
51 5.70 1.21E-26		0.	0.	4.33E-20	1.92E-19	0.	3.98E-12	6.71E-08	9.90E-07	9.15E-08	1.12E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2300. DENSITY (GM/CC) 1.293E-07 (10.0F-05 NORMAL)

PHOTON 02 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DEY (IONS)	FREE-FREE	N P.E.	O P.E.	TOTAL AIR
52	5.60	5.49E-28	0.	0.	3.82E-20	2.45E-19	0.	3.70E-12	7.08E-08	3.69E-07	7.62E-08	5.16E-07
53	5.50	0.	0.	0.	4.67E-20	2.27E-19	0.	3.72E-12	7.48E-08	3.69E-07	7.77E-08	5.42E-07
54	5.40	0.	0.	0.	4.40E-20	1.92E-19	0.	3.74E-12	7.90E-08	4.11E-07	7.96E-08	5.70E-07
55	5.30	0.	0.	0.	4.51E-20	2.36E-19	0.	3.76E-12	8.37E-08	4.33E-07	8.17E-08	5.99E-07
56	5.20	0.	0.	0.	4.91E-20	1.90E-19	0.	3.78E-12	8.86E-08	4.56E-07	8.41E-08	6.28E-07
57	5.10	0.	0.	0.	4.93E-20	2.41E-19	0.	3.82E-12	9.40E-08	4.78E-07	8.64E-08	6.59E-07
58	5.00	7.81E-21	0.	0.	4.55E-20	2.32E-19	0.	3.85E-12	9.98E-08	5.01E-07	8.87E-08	6.89E-07
59	4.90	1.94E-20	0.	0.	5.12E-20	2.57E-19	0.	3.88E-12	1.06E-07	5.24E-07	9.12E-08	7.21E-07
60	4.80	3.71E-20	0.	0.	5.54E-20	2.44E-19	0.	3.91E-12	1.13E-07	5.47E-07	9.63E-08	7.44E-07
61	4.70	5.11E-20	0.	0.	5.62E-20	2.23E-19	0.	3.95E-12	1.20E-07	5.80E-07	9.93E-08	7.89E-07
62	4.60	7.18E-20	0.	0.	5.84E-20	2.02E-19	0.	3.98E-12	1.28E-07	6.22E-07	9.24E-08	8.43E-07
63	4.50	7.66E-20	0.	5.03E-20	5.44E-20	1.53E-19	0.	4.01E-12	1.37E-07	6.65E-07	9.57E-08	8.98E-07
64	4.40	8.33E-20	0.	1.44E-19	5.50E-20	1.04E-19	0.	4.04E-12	1.47E-07	7.09E-07	9.95E-08	9.55E-07
65	4.30	8.01E-20	0.	5.08E-19	5.34E-20	6.64E-20	0.	4.07E-12	1.57E-07	7.52E-07	1.01E-07	1.01E-06
66	4.20	7.57E-20	0.	1.53E-18	5.64E-20	4.51E-20	0.	4.11E-12	1.69E-07	8.03E-07	9.54E-08	1.07E-06
67	4.10	7.20E-20	0.	7.31E-19	5.61E-20	1.28E-20	0.	4.12E-12	1.82E-07	8.56E-07	7.56E-08	1.11E-06
68	4.00	6.73E-20	0.	2.22E-18	5.48E-20	9.57E-21	0.	4.14E-12	1.96E-07	9.03E-07	7.97E-08	1.16E-06
69	3.90	5.82E-20	0.	1.07E-18	5.17E-20	3.51E-21	0.	4.12E-12	2.12E-07	9.34E-07	8.17E-08	1.23E-06
70	3.80	6.43E-20	0.	1.74E-18	5.52E-20	5.60E-20	0.	4.11E-12	2.29E-07	9.86E-07	8.64E-08	1.30E-06
71	3.70	5.86E-20	0.	1.74E-18	2.78E-19	4.92E-20	0.	4.09E-12	2.49E-07	1.04E-06	9.29E-08	1.38E-06
72	3.60	5.36E-20	0.	1.31E-18	1.38E-14	5.32E-20	0.	3.78E-12	2.70E-07	1.09E-06	9.97E-08	1.46E-06
73	3.50	5.09E-20	0.	1.69E-18	2.24E-14	4.32E-20	0.	3.46E-12	2.94E-07	1.15E-06	1.07E-07	1.55E-06
74	3.40	4.76E-20	0.	1.13E-18	4.21E-15	4.87E-20	0.	2.00E-12	3.22E-07	1.22E-06	1.16E-07	1.64E-06
75	3.30	3.85E-20	0.	1.16E-18	1.49E-14	3.98E-20	0.	2.00E-12	3.52E-07	1.29E-06	1.25E-07	1.77E-06
76	3.20	3.42E-20	0.	7.82E-19	2.23E-14	4.23E-20	0.	2.00E-12	3.87E-07	1.38E-06	1.28E-07	1.90E-06
77	3.10	3.33E-20	0.	3.16E-19	6.71E-15	4.07E-20	0.	2.01E-12	4.26E-07	1.50E-06	1.39E-07	1.15E-06
78	3.00	3.04E-20	0.	3.84E-19	1.40E-14	3.93E-20	0.	2.01E-12	4.70E-07	1.59E-06	1.50E-07	1.28E-06
79	2.90	2.62E-20	0.	2.45E-19	7.53E-15	3.09E-20	0.	2.02E-12	5.21E-07	1.70E-06	1.42E-07	1.39E-06
80	2.80	2.76E-20	0.	1.18E-19	5.50E-15	2.23E-20	0.	2.02E-12	5.80E-07	1.80E-06	1.38E-07	1.52E-06
81	2.70	1.84E-20	0.	5.57E-20	6.57E-15	1.27E-20	0.	2.02E-12	6.49E-07	1.73E-06	1.34E-07	1.66E-06
82	2.60	8.99E-21	0.	2.66E-20	7.10E-16	5.77E-21	0.	2.02E-12	7.28E-07	1.44E-06	1.12E-07	1.78E-06
83	2.50	6.41E-22	0.	2.72E-21	6.99E-16	1.41E-21	0.	2.02E-12	8.20E-07	9.77E-07	1.28E-07	1.93E-06
84	2.40	0.	1.17E-19	0.	5.12E-16	1.53E-22	0.	2.02E-12	9.29E-07	1.13E-06	1.51E-07	2.21E-06
85	2.30	0.	3.29E-19	0.	0.	0.	0.	2.00E-12	1.06E-06	1.28E-06	1.74E-07	2.52E-06
86	2.20	0.	9.01E-19	0.	0.	0.	0.	2.00E-12	1.21E-06	1.44E-06	2.01E-07	2.85E-06
87	2.10	0.	8.93E-19	0.	0.	0.	0.	1.99E-12	1.39E-06	1.61E-06	2.28E-07	3.23E-06
88	2.00	0.	1.81E-18	0.	0.	0.	0.	1.92E-12	1.62E-06	1.77E-06	2.55E-07	3.64E-06
89	1.90	0.	2.07E-18	0.	0.	0.	0.	1.85E-12	1.89E-06	1.94E-06	2.91E-07	4.13E-06
90	1.80	0.	1.79E-18	0.	0.	0.	0.	1.77E-12	2.24E-06	2.15E-06	3.40E-07	4.73E-06
91	1.70	0.	2.01E-18	0.	0.	0.	0.	1.67E-12	2.67E-06	1.43E-06	3.32E-07	4.43E-06
92	1.60	0.	1.53E-18	0.	0.	0.	0.	1.41E-12	3.21E-06	1.62E-06	3.76E-07	5.21E-06
93	1.50	0.	1.73E-18	0.	0.	0.	0.	6.42E-13	3.91E-06	1.94E-06	4.50E-07	6.30E-06
94	1.40	0.	1.69E-18	0.	0.	0.	0.	0.	4.83E-06	2.00E-06	5.01E-07	7.33E-06
95	1.30	0.	1.30E-18	0.	0.	0.	0.	0.	6.05E-06	2.58E-06	5.45E-07	9.18E-06
96	1.20	0.	1.24E-18	0.	0.	0.	0.	0.	7.73E-06	3.14E-06	7.08E-07	1.16E-05
97	1.10	0.	1.21E-18	0.	0.	2.30E-24	0.	0.	1.01E-05	3.77E-06	8.28E-07	1.47E-05
98	1.00	0.	1.12E-18	0.	0.	3.94E-23	0.	0.	1.35E-05	4.33E-06	9.87E-07	1.89E-05
99	0.90	0.	9.14E-19	0.	0.	4.64E-23	0.	0.	1.87E-05	3.65E-06	1.06E-06	2.34E-05
100	0.80	0.	4.28E-19	0.	0.	1.03E-21	0.	0.	2.69E-05	3.99E-06	1.06E-06	3.20E-05
101	0.70	0.	9.78E-20	0.	0.	1.02E-21	0.	0.	4.07E-05	3.81E-06	9.26E-07	4.55E-05
102	0.60	0.	2.38E-20	0.	0.	3.12E-21	0.	0.	6.57E-05	4.29E-06	1.05E-06	7.10E-05

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2300C. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON ENERGY E.V.	U2 S-R PANDS	U2 S-R CONT.	U2 H-H NO. 1	NC BETA	NC GAMMA	NU 2	U- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR
1	10.70	0.	5.76E-23	0.	0.	0.	4.17E-15	2.27E-10	1.58E-08	2.28E-09	1.83E-08
2	10.60	0.	5.33E-23	0.	0.	0.	4.17E-15	2.34E-10	1.60E-08	2.28E-09	1.85E-08
3	10.50	0.	5.44E-23	0.	0.	0.	4.18E-15	2.41E-10	1.61E-08	2.28E-09	1.86E-08
4	10.40	0.	5.24E-23	0.	0.	0.	4.19E-15	2.48E-10	1.63E-08	2.28E-09	1.88E-08
5	10.30	0.	4.65E-23	0.	0.	0.	4.19E-15	2.55E-10	1.64E-08	2.28E-09	1.90E-08
6	10.20	0.	4.86E-23	0.	0.	0.	4.20E-15	2.63E-10	1.67E-08	2.31E-09	1.93E-08
7	10.10	0.	4.63E-23	0.	0.	0.	4.20E-15	2.70E-10	1.70E-08	2.33E-09	1.96E-08
8	10.00	0.	4.16E-23	0.	0.	0.	4.21E-15	2.79E-10	1.73E-08	2.35E-09	1.99E-08
9	9.90	0.	4.29E-23	0.	0.	0.	4.22E-15	2.87E-10	1.76E-08	2.38E-09	2.02E-08
10	9.80	0.	4.10E-23	0.	0.	0.	4.22E-15	2.96E-10	1.78E-08	2.40E-09	2.05E-08
11	9.70	0.	3.62E-23	0.	0.	0.	4.23E-15	3.06E-10	1.81E-08	2.43E-09	2.09E-08
12	9.60	0.	3.92E-23	0.	0.	0.	4.24E-15	3.15E-10	1.84E-08	2.45E-09	2.12E-08
13	9.50	0.	3.43E-23	0.	0.	0.	4.25E-15	3.25E-10	1.87E-08	2.47E-09	2.15E-08
14	9.40	0.	3.31E-23	0.	0.	0.	4.26E-15	3.36E-10	1.90E-08	2.50E-09	2.18E-08
15	9.30	0.	3.41E-23	0.	0.	0.	4.28E-15	3.47E-10	1.90E-08	2.53E-09	2.19E-08
16	9.20	0.	2.91E-23	0.	0.	0.	4.29E-15	3.58E-10	1.93E-08	2.56E-09	2.22E-08
17	9.10	0.	3.00E-23	0.	0.	0.	4.31E-15	3.70E-10	1.96E-08	2.58E-09	2.25E-08
18	9.00	0.	2.78E-23	0.	0.	0.	4.32E-15	3.83E-10	1.99E-08	2.61E-09	2.29E-08
19	8.90	0.	2.67E-23	0.	0.	0.	4.34E-15	3.96E-10	2.02E-08	2.64E-09	2.32E-08
20	8.80	0.	2.59E-23	0.	0.	0.	4.35E-15	4.10E-10	2.04E-08	1.83E-09	2.27E-08
21	8.70	0.	2.31E-23	0.	0.	0.	4.37E-15	4.24E-10	2.07E-08	1.85E-09	2.30E-08
22	8.60	0.	2.39E-23	0.	0.	0.	4.39E-15	4.39E-10	2.10E-08	1.89E-09	2.34E-08
23	8.50	0.	2.15E-23	0.	0.	0.	4.40E-15	4.55E-10	2.13E-08	1.92E-09	2.37E-08
24	8.40	0.	2.16E-23	0.	0.	0.	4.42E-15	4.72E-10	2.17E-08	1.96E-09	2.41E-08
25	8.30	0.	1.87E-23	0.	0.	0.	4.45E-15	4.89E-10	1.35E-08	2.00E-09	1.59E-08
26	8.20	0.	1.91E-23	0.	0.	0.	4.47E-15	5.07E-10	1.40E-08	2.04E-09	1.66E-08
27	8.10	0.	1.69E-23	0.	0.	0.	4.49E-15	5.26E-10	1.45E-08	2.13E-09	1.72E-08
28	8.00	0.	1.72E-23	0.	0.	0.	4.52E-15	5.46E-10	1.51E-08	2.19E-09	1.78E-08
29	7.90	0.	1.51E-23	0.	0.	0.	4.54E-15	5.67E-10	1.56E-08	2.26E-09	1.84E-08
30	7.80	0.	1.58E-23	0.	0.	0.	4.56E-15	5.89E-10	1.61E-08	2.33E-09	1.91E-08
31	7.70	0.	1.42E-23	0.	0.	0.	4.59E-15	6.13E-10	1.67E-08	2.40E-09	1.98E-08
32	7.60	0.	1.37E-23	0.	2.27E-27	0.	4.61E-15	6.37E-10	1.74E-08	2.46E-09	2.05E-08
33	7.50	0.	1.29E-23	0.	6.98E-27	0.	4.63E-15	6.63E-10	1.81E-08	2.53E-09	2.13E-08
34	7.40	0.	1.19E-23	0.	6.64E-26	0.	4.66E-15	6.91E-10	1.88E-08	2.61E-09	2.21E-08
35	7.30	0.	1.14E-23	0.	2.45E-25	0.	4.68E-15	7.20E-10	1.66E-08	2.70E-09	2.00E-08
36	7.20	0.	1.04E-23	0.	6.95E-25	0.	4.71E-15	7.50E-10	1.75E-08	2.83E-09	2.11E-08
37	7.10	0.	1.02E-23	0.	2.20E-24	0.	4.75E-15	7.83E-10	1.84E-08	2.95E-09	2.22E-08
38	7.00	2.94E-26	9.51E-24	0.	4.08E-24	0.	4.79E-15	8.17E-10	1.94E-08	3.08E-09	2.33E-08
39	6.90	5.79E-26	8.87E-24	0.	6.18E-24	0.	4.83E-15	8.53E-10	2.03E-08	3.21E-09	2.43E-08
40	6.80	5.05E-26	8.71E-24	0.	1.00E-23	0.	4.86E-15	8.91E-10	2.12E-08	3.33E-09	2.54E-08
41	6.70	3.77E-26	7.77E-24	0.	9.55E-24	0.	4.90E-15	9.32E-10	2.21E-08	3.46E-09	2.65E-08
42	6.60	2.29E-26	7.10E-24	0.	8.50E-24	0.	4.94E-15	9.76E-10	2.30E-08	3.59E-09	2.76E-08
43	6.50	1.34E-26	5.79E-24	0.	1.17E-23	0.	4.98E-15	1.02E-09	2.40E-08	3.72E-09	2.87E-08
44	6.40	7.81E-27	4.13E-24	3.45E-26	1.06E-23	0.	5.02E-15	1.07E-09	2.49E-08	3.85E-09	2.98E-08
45	6.30	4.61E-27	2.67E-24	1.66E-25	8.27E-24	0.	5.06E-15	1.12E-09	2.58E-08	3.99E-09	3.09E-08
46	6.20	2.11E-27	1.52E-24	2.40E-25	1.09E-23	0.	5.10E-15	1.18E-09	2.68E-08	4.14E-09	3.21E-08
47	6.10	9.26E-28	7.37E-25	6.95E-25	1.30F-23	0.	5.13E-15	1.24E-09	2.78E-08	4.29E-09	3.34E-08
48	6.00	4.15E-28	1.91E-25	6.89E-25	6.75E-24	0.	5.17E-15	1.30E-09	9.01E-09	4.44E-09	1.48E-08
49	5.90	1.04E-28	1.37E-26	1.02E-24	6.48E-24	0.	5.17E-15	1.37E-09	9.34E-09	1.76E-09	1.25E-08
50	5.80	1.33E-29	3.47E-28	1.45E-24	6.86E-24	0.	5.10E-15	1.44E-09	9.67E-09	1.81E-09	1.29E-08
51	5.70	4.79E-31	0.	1.73E-24	7.68E-24	0.	4.79E-15	1.52E-09	1.01E-08	1.87E-09	1.35E-08



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		23000.		DENSITY (GM/CC) 1.293E-08 (1.0E-C5 NORMAL)		O- PHOTO-DET (IONS)		FREE-FREE N P.E.		O P.E.		TOTAL AIR	
PHOTON UZ 5-R	N2	N2	N2+	N2	N2	N2	N2	N2	N2	N2	N2	N2	N2
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	BETA	GAMMA	VIB-ROT	NO	NO	NO	NO	NO	NO	NO
52	5.60	4.45E-32	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
53	5.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
54	5.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55	5.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56	5.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57	5.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58	5.00	6.33E-25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59	4.90	1.57E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	4.80	3.01E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	4.70	4.14E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62	4.60	5.81E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
63	4.50	6.21E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
64	4.40	6.75E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
65	4.30	6.49E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
66	4.20	6.13E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
67	4.10	5.83E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
68	4.00	5.45E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
69	3.90	4.72E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	3.80	5.21E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	3.70	4.74E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
72	3.60	4.34E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
73	3.50	4.12E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
74	3.40	3.85E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
75	3.30	3.12E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
76	3.20	2.77E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
77	3.10	2.70E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
78	3.00	2.47E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
79	2.90	2.12E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	2.80	2.24E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
81	2.70	1.49E-24	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82	2.60	7.26E-25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
83	2.50	5.18E-26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
84	2.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



TEMPERATURE (DEGREES K) 2300. DENSITY (GM/CC) 1.293E-04 ( 1.0E-06 NORMAL)

PHOTON U2 S-R ENERGY E.V.	U2 S-R CONT.	U2 H-H NO. 1	NO BETA	NO GAMMA	NO 2	Q- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	1.58E-28	0.	0.	0.	1.41E-18	3.24E-12	2.23E-10	4.65E-11	2.73E-10
2 10.60 0.	0.	1.46E-28	0.	0.	0.	1.41E-18	3.34E-12	2.26E-10	4.66E-11	2.75E-10
3 10.50 0.	0.	1.49E-28	0.	0.	0.	1.41E-18	3.43E-12	2.27E-10	4.66E-11	2.78E-10
4 10.40 0.	0.	1.44E-28	0.	0.	0.	1.41E-18	3.53E-12	2.29E-10	4.67E-11	2.80E-10
5 10.30 0.	0.	1.28E-28	0.	0.	0.	1.42E-18	3.64E-12	2.32E-10	4.69E-11	2.83E-10
6 10.20 0.	0.	1.33E-28	0.	0.	0.	1.42E-18	3.75E-12	2.36E-10	4.75E-11	2.87E-10
7 10.10 0.	0.	1.27E-28	0.	0.	0.	1.42E-18	3.86E-12	2.40E-10	4.81E-11	2.92E-10
8 10.00 0.	0.	1.14E-28	0.	0.	0.	1.42E-18	3.98E-12	2.44E-10	4.88E-11	2.97E-10
9 9.90 0.	0.	1.18E-28	0.	0.	0.	1.42E-18	4.10E-12	2.48E-10	4.95E-11	3.02E-10
10 9.80 0.	0.	1.12E-28	0.	0.	0.	1.43E-18	4.23E-12	2.52E-10	5.01E-11	3.07E-10
11 9.70 0.	0.	9.97E-29	0.	0.	0.	1.43E-18	4.36E-12	2.56E-10	5.08E-11	3.11E-10
12 9.60 0.	0.	1.08E-28	0.	0.	0.	1.43E-18	4.50E-12	2.60E-10	5.15E-11	3.16E-10
13 9.50 0.	0.	9.41E-29	0.	0.	0.	1.43E-18	4.64E-12	2.64E-10	5.22E-11	3.21E-10
14 9.40 0.	0.	9.07E-29	0.	0.	0.	1.44E-18	4.79E-12	2.68E-10	5.29E-11	3.26E-10
15 9.30 0.	0.	9.34E-29	0.	0.	0.	1.44E-18	4.95E-12	2.72E-10	5.37E-11	3.31E-10
16 9.20 0.	0.	7.97E-29	0.	0.	0.	1.45E-18	5.11E-12	2.76E-10	5.43E-11	3.36E-10
17 9.10 0.	0.	8.22E-29	0.	0.	0.	1.46E-18	5.29E-12	2.81E-10	5.51E-11	3.41E-10
18 9.00 0.	0.	7.61E-29	0.	0.	0.	1.46E-18	5.46E-12	2.85E-10	5.71E-11	3.47E-10
19 8.90 0.	0.	7.18E-29	0.	0.	0.	1.47E-18	5.65E-12	2.89E-10	5.40E-11	3.49E-10
20 8.80 0.	0.	7.12E-29	0.	0.	0.	1.47E-18	5.85E-12	2.93E-10	5.37E-11	3.55E-10
21 8.70 0.	0.	6.32E-29	0.	0.	0.	1.48E-18	6.05E-12	2.97E-10	5.67E-11	3.40E-10
22 8.60 0.	0.	6.57E-29	0.	0.	0.	1.48E-18	6.27E-12	3.02E-10	5.76E-11	3.46E-10
23 8.50 0.	0.	5.89E-29	0.	0.	0.	1.49E-18	6.49E-12	3.06E-10	5.86E-11	3.51E-10
24 8.40 0.	0.	5.92E-29	0.	0.	0.	1.49E-18	6.73E-12	3.10E-10	5.95E-11	3.53E-10
25 8.30 0.	0.	5.14E-29	0.	0.	0.	1.50E-18	6.97E-12	3.14E-10	6.05E-11	3.40E-10
26 8.20 0.	0.	5.24E-29	0.	0.	0.	1.51E-18	7.23E-12	3.20E-10	6.22E-11	3.50E-10
27 8.10 0.	0.	4.63E-29	0.	0.	0.	1.52E-18	7.51E-12	3.28E-10	6.39E-11	3.40E-10
28 8.00 0.	0.	4.71E-29	0.	0.	0.	1.53E-18	7.79E-12	3.36E-10	6.56E-11	3.49E-10
29 7.90 0.	0.	4.14E-29	0.	0.	0.	1.53E-18	8.09E-12	3.44E-10	6.72E-11	3.49E-10
30 7.80 0.	0.	4.34E-29	0.	0.	0.	1.54E-18	8.41E-12	3.51E-10	6.89E-11	3.49E-10
31 7.70 0.	0.	3.89E-29	0.	0.	0.	1.55E-18	8.74E-12	3.60E-10	7.07E-11	3.49E-10
32 7.60 0.	0.	3.75E-29	0.	1.11E-32	0.	1.56E-18	9.09E-12	3.68E-10	7.24E-11	3.49E-10
33 7.50 0.	0.	3.54E-29	0.	3.40E-32	0.	1.56E-18	9.46E-12	3.76E-10	7.42E-11	3.49E-10
34 7.40 0.	0.	3.23E-29	0.	3.23E-31	0.	1.57E-18	9.85E-12	3.84E-10	7.60E-11	3.49E-10
35 7.30 0.	0.	3.11E-29	0.	1.19E-30	0.	1.58E-18	1.03E-11	3.92E-10	7.78E-11	3.49E-10
36 7.20 0.	0.	2.86E-29	0.	3.38E-30	0.	1.59E-18	1.07E-11	4.00E-10	7.96E-11	3.49E-10
37 7.10 0.	0.	2.79E-29	0.	1.07E-29	0.	1.60E-18	1.12E-11	4.08E-10	8.14E-11	3.49E-10
38 7.00 2.53E-31	0.	2.61E-29	0.	1.99E-29	0.	1.62E-18	1.16E-11	4.16E-10	8.32E-11	3.49E-10
39 6.90 5.00E-31	0.	2.43E-29	0.	3.01E-29	0.	1.63E-18	1.22E-11	4.24E-10	8.50E-11	3.49E-10
40 6.80 4.36E-31	0.	2.39E-29	0.	4.89E-29	0.	1.64E-18	1.27E-11	4.32E-10	8.68E-11	3.49E-10
41 6.70 3.21E-31	0.	2.13E-29	0.	4.65E-29	0.	1.66E-18	1.33E-11	4.40E-10	8.86E-11	3.49E-10
42 6.60 1.96E-31	0.	1.95E-29	0.	4.14E-29	0.	1.67E-18	1.39E-11	4.48E-10	9.04E-11	3.49E-10
43 6.50 1.16E-31	0.	1.59E-29	0.	5.72E-29	0.	1.68E-18	1.46E-11	4.56E-10	9.22E-11	3.49E-10
44 6.40 8.74E-32	0.	1.13E-29	1.68E-31	5.16E-29	0.	1.70E-18	1.53E-11	4.64E-10	9.40E-11	3.49E-10
45 6.30 3.9E-32	0.	7.32E-30	8.07E-31	4.03E-29	0.	1.71E-18	1.60E-11	4.72E-10	9.58E-11	3.49E-10
46 6.20 1.82E-32	0.	4.18E-30	1.17E-30	5.33E-29	0.	1.72E-18	1.68E-11	4.80E-10	9.76E-11	3.49E-10
47 6.10 8.51E-33	0.	2.07E-30	3.38E-30	6.32E-29	0.	1.73E-18	1.77E-11	4.88E-10	9.94E-11	3.49E-10
48 6.00 3.61E-33	0.	5.23E-31	3.35E-30	3.28E-29	0.	1.75E-18	1.86E-11	4.96E-10	1.01E-10	3.49E-10
49 5.90 8.96E-34	0.	3.76E-32	4.98E-30	3.16E-29	0.	1.77E-18	1.95E-11	5.04E-10	1.03E-10	3.49E-10
50 5.80 1.15E-34	0.	9.52E-34	7.04E-30	3.34E-29	0.	1.78E-18	2.06E-11	5.12E-10	1.05E-10	3.49E-10
51 5.70 8.45E-36	0.	0.	8.44E-30	3.74E-29	0.	1.62E-18	2.17E-11	5.20E-10	1.07E-10	3.49E-10

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# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-09 ( 1.6E-06 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N2 2ND NEG.	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52	5.60	3.84E-37	0.	0.	7.44E-30	4.78E-29	0.	1.50E-18	2.29E-11	1.53E-10	3.81E-11	2.14E-10
53	5.50	0.	0.	0.	9.10E-30	4.42E-29	0.	1.51E-18	2.41E-11	1.62E-10	3.98E-11	2.26E-10
54	5.40	0.	0.	0.	8.57E-30	3.74E-29	0.	1.52E-18	2.55E-11	1.72E-10	4.20E-11	2.39E-10
55	5.30	0.	0.	0.	8.78E-30	4.59E-29	0.	1.53E-18	2.70E-11	1.82E-10	4.45E-11	2.53E-10
56	5.20	0.	0.	0.	9.56E-30	3.69E-29	0.	1.54E-18	2.86E-11	1.92E-10	4.52E-11	2.56E-10
57	5.10	0.	0.	0.	9.60E-30	4.68E-29	0.	1.55E-18	3.03E-11	2.02E-10	3.73E-11	2.70E-10
58	5.00	5.46E-30	0.	0.	8.86E-30	4.51E-29	0.	1.56E-18	3.22E-11	2.12E-10	3.94E-11	2.84E-10
59	4.90	1.35E-29	0.	0.	9.97E-30	5.01E-29	0.	1.58E-18	3.42E-11	2.22E-10	4.15E-11	2.98E-10
60	4.80	2.59E-29	0.	0.	1.08E-29	4.75E-29	0.	1.59E-18	3.64E-11	2.32E-10	4.37E-11	3.12E-10
61	4.70	3.57E-29	0.	0.	1.10E-29	4.35E-29	0.	1.60E-18	3.88E-11	2.47E-10	4.60E-11	3.31E-10
62	4.60	5.02E-29	0.	0.	1.14E-29	3.94E-29	0.	1.62E-18	4.14E-11	2.65E-10	4.85E-11	3.55E-10
63	4.50	5.36E-29	0.	2.73E-30	1.06E-29	2.98E-29	0.	1.63E-18	4.43E-11	2.84E-10	5.11E-11	3.79E-10
64	4.40	5.82E-29	0.	7.80E-30	1.07E-29	2.02E-29	0.	1.64E-18	4.74E-11	3.02E-10	5.43E-11	4.04E-10
65	4.30	5.61E-29	0.	2.75E-29	1.04E-29	1.29E-29	0.	1.66E-18	5.08E-11	3.21E-10	5.47E-11	4.27E-10
66	4.20	5.29E-29	0.	8.29E-29	1.10E-29	8.79E-30	0.	1.67E-18	5.45E-11	3.44E-10	5.90E-11	4.57E-10
67	4.10	5.03E-29	0.	3.96E-29	1.09E-29	2.50E-30	0.	1.68E-18	5.87E-11	3.67E-10	6.39E-11	4.89E-10
68	4.00	4.70E-29	0.	1.21E-28	1.07E-29	1.86E-30	0.	1.68E-18	6.32E-11	3.90E-10	6.39E-11	5.22E-10
69	3.90	4.07E-29	0.	5.81E-29	1.01E-29	6.84E-31	0.	1.68E-18	6.83E-11	4.13E-10	7.38E-11	5.55E-10
70	3.80	4.50E-29	0.	9.43E-29	1.95E-23	1.09E-29	0.	1.67E-18	7.39E-11	4.37E-10	7.88E-11	5.89E-10
71	3.70	4.10E-29	0.	9.43E-29	9.79E-24	9.58E-30	0.	1.64E-18	7.92E-11	4.60E-10	8.38E-11	6.24E-10
72	3.60	3.74E-29	0.	7.13E-29	4.86E-23	1.04E-29	0.	1.54E-18	8.71E-11	4.83E-10	7.88E-11	6.47E-10
73	3.50	3.56E-29	0.	9.16E-29	8.24E-23	8.40E-30	0.	1.41E-18	9.48E-11	1.43E-10	8.12E-11	3.19E-10
74	3.40	3.33E-29	0.	6.14E-29	1.48E-23	9.49E-30	0.	8.13E-19	1.04E-10	1.56E-10	8.69E-11	3.46E-10
75	3.30	2.69E-29	0.	6.28E-29	5.24E-23	7.74E-30	0.	8.14E-19	1.13E-10	1.68E-10	8.38E-11	3.45E-10
76	3.20	2.39E-29	0.	4.24E-29	7.84E-23	8.23E-30	0.	8.15E-19	1.24E-10	1.92E-10	5.05E-11	3.67E-10
77	3.10	2.33E-29	0.	3.34E-29	2.36E-23	7.93E-30	0.	8.17E-19	1.37E-10	2.19E-10	5.74E-11	4.14E-10
78	3.00	2.13E-29	0.	2.08E-29	4.94E-23	7.65E-30	0.	8.19E-19	1.51E-10	2.44E-10	6.42E-11	4.62E-10
79	2.90	1.83E-29	0.	1.33E-29	2.65E-23	6.02E-30	0.	8.20E-19	1.68E-10	2.74E-10	7.11E-11	5.12E-10
80	2.80	1.93E-29	0.	6.41E-30	1.94E-23	4.34E-30	0.	8.22E-19	1.87E-10	3.01E-10	7.77E-11	5.65E-10
81	2.70	1.28E-29	0.	3.03E-30	2.31E-23	2.47E-30	0.	8.22E-19	2.08E-10	3.29E-10	8.38E-11	6.21E-10
82	2.60	6.26E-30	0.	1.44E-30	2.50E-24	1.12E-30	0.	8.22E-19	2.34E-10	3.56E-10	9.04E-11	6.80E-10
83	2.50	4.47E-31	0.	1.47E-31	2.46E-24	2.74E-31	0.	8.22E-19	2.63E-10	3.92E-10	1.00E-10	7.55E-10
84	2.40	0.	6.32E-30	0.	1.80E-24	2.97E-32	0.	8.22E-19	2.98E-10	4.45E-10	1.14E-10	8.58E-10
85	2.30	0.	1.78E-29	0.	0.	0.	0.	8.15E-19	3.39E-10	4.99E-10	1.28E-10	9.64E-10
86	2.20	0.	4.88E-29	0.	0.	0.	0.	8.12E-19	3.88E-10	5.53E-10	1.41E-10	1.08E-09
87	2.10	0.	4.84E-29	0.	0.	0.	0.	8.09E-19	4.47E-10	6.23E-10	1.54E-10	1.17E-09
88	2.00	0.	9.83E-29	0.	0.	0.	0.	7.83E-19	5.19E-10	7.02E-10	1.71E-10	1.30E-09
89	1.90	0.	1.12E-28	0.	0.	0.	0.	7.53E-19	6.08E-10	8.02E-10	2.06E-11	1.49E-09
90	1.80	0.	9.71E-29	0.	0.	0.	0.	7.20E-19	7.18E-10	9.35E-10	8.97E-11	1.64E-09
91	1.70	0.	1.09E-28	0.	0.	0.	0.	6.79E-19	8.56E-10	1.08E-10	9.87E-11	1.82E-09
92	1.60	0.	8.30E-29	0.	0.	0.	0.	5.74E-19	1.03E-09	1.25E-09	1.08E-10	2.04E-09
93	1.50	0.	9.36E-29	0.	0.	0.	0.	2.61E-19	1.25E-09	1.55E-09	1.17E-10	2.24E-09
94	1.40	0.	9.17E-29	0.	0.	0.	0.	0.	1.55E-09	1.67E-10	1.25E-10	2.44E-09
95	1.30	0.	7.02E-29	0.	0.	0.	0.	0.	1.94E-09	1.10E-11	1.25E-11	2.64E-09
96	1.20	0.	6.70E-29	0.	0.	0.	0.	0.	2.47E-09	1.51E-11	1.57E-11	2.90E-09
97	1.10	0.	6.57E-29	0.	0.	0.	0.	0.	3.23E-09	1.87E-11	1.97E-11	3.27E-09
98	1.00	0.	6.04E-29	0.	0.	0.	0.	0.	4.32E-09	2.20E-11	2.38E-11	3.67E-09
99	0.90	0.	4.95E-29	0.	0.	0.	0.	0.	5.97E-09	2.54E-11	2.42E-11	4.02E-09
100	0.80	0.	2.32E-29	0.	0.	0.	0.	0.	8.57E-09	2.45E-11	2.13E-11	4.41E-09
101	0.70	0.	5.30E-30	0.	0.	0.	0.	0.	1.29E-08	2.80E-11	2.45E-11	4.86E-09
102	0.60	0.	1.29E-30	0.	0.	0.	0.	0.	2.08E-08	3.13E-11	2.77E-11	5.29E-09

TEMPERATURE (DEGREES K) 24000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

TEMPERATURE (DEGREES K) 24000.

DENSITY (GM/CC) 1.293E-02

DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON	02 S-R	02 S-R	N2 B-H
ENERGY	PANDS	CONT.	NC. I
F.V.			

U2 S-R  
CONT.

42 B-H  
NF. I

**NO  
BETA**

**NO  
GAMMA**

ND 2

U-  
PHOTO-DE

**FREE**  
**SI**

23

**TOTAL AIR**

1	10.70	0.	1.41E-01	0.	0.	5.65E	00	1.30E	00	2.64E	02	9.22E	00	2.80E	02
2	10.60	0.	1.31E-01	0.	0.	5.66E	00	1.34E	00	2.85E	01	9.10E	00	4.48E	01
3	10.50	0.	1.34E-01	0.	0.	5.66E	00	1.38E	00	2.86E	01	9.14E	00	4.49E	01
4	10.40	0.	1.29E-01	0.	0.	5.67E	00	1.42E	00	2.87E	01	9.09E	00	4.50E	01
5	10.30	0.	1.15E-01	0.	0.	5.68E	00	1.46E	00	2.88E	01	9.05E	00	4.51E	01
6	10.20	0.	1.20E-01	0.	0.	5.69E	00	1.51E	00	2.88E	01	9.01E	00	4.52E	01
7	10.10	0.	1.15E-01	0.	0.	5.69E	00	1.55E	00	2.87E	01	8.96E	00	4.50E	01
8	10.00	0.	1.03E-01	0.	0.	5.70E	00	1.60E	00	2.87E	01	8.92E	00	4.50E	01
9	9.90	0.	1.07E-01	0.	0.	5.71E	00	1.65E	00	2.88E	01	8.87E	00	4.51E	01
10	9.80	0.	1.02E-01	0.	0.	5.72E	00	1.70E	00	2.88E	01	8.83E	00	4.52E	01
11	9.70	0.	9.05E-02	0.	0.	5.73E	00	1.75E	00	2.89E	01	8.79E	00	4.53E	01
12	9.60	0.	9.82E-02	0.	0.	5.74E	00	1.81E	00	2.90E	01	8.74E	00	4.54E	01
13	9.50	0.	8.61E-02	0.	0.	5.75E	00	1.87E	00	2.91E	01	8.70E	00	4.55E	01
14	9.40	0.	8.32E-02	0.	0.	5.78E	00	1.93E	00	2.92E	01	8.66E	00	4.56E	01
15	9.30	0.	8.58E-02	0.	0.	5.80E	00	1.99E	00	2.92E	01	8.61E	00	4.57E	01
16	9.20	0.	7.35E-02	0.	0.	5.82E	00	2.06E	00	2.93E	01	8.57E	00	4.59E	01
17	9.10	0.	7.58E-02	0.	0.	5.84E	00	2.13E	00	1.24E	01	8.53E	00	2.90E	01
18	9.00	0.	7.04E-02	0.	0.	5.86E	00	2.20E	00	1.25E	01	8.49E	00	2.91E	01
19	8.90	0.	6.65E-02	0.	0.	5.88E	00	2.28E	00	1.25E	01	8.45E	00	2.92E	01
20	8.80	0.	6.60E-02	0.	0.	5.90E	00	2.36E	00	1.25E	01	8.41E	00	2.92E	01
21	8.70	0.	5.89E-02	0.	0.	5.92E	00	2.44E	00	1.25E	01	8.37E	00	2.93E	01
22	8.60	0.	6.12E-02	0.	0.	5.94E	00	2.53E	00	1.26E	01	8.34E	00	2.95E	01
23	8.50	0.	5.51E-02	0.	0.	5.96E	00	2.62E	00	1.26E	01	8.30E	00	2.96E	01
24	8.40	0.	5.54E-02	0.	0.	6.00E	00	2.71E	00	1.27E	01	8.26E	00	2.97E	01
25	8.30	0.	4.83E-02	0.	0.	6.03E	00	2.82E	00	1.28E	01	8.24E	00	2.99E	01
26	8.20	0.	4.95E-02	0.	0.	6.06E	00	2.92E	00	1.28E	01	8.24E	00	3.01E	01
27	8.10	0.	4.37E-02	0.	0.	6.09E	00	3.03E	00	1.29E	01	8.24E	00	3.03E	01
28	8.00	0.	4.45E-02	0.	0.	6.12E	00	3.15E	00	1.30E	01	8.24E	00	3.06E	01
29	7.90	0.	3.92E-02	0.	0.	6.15E	00	3.27E	00	1.31E	01	8.24E	00	3.08E	01
30	7.80	0.	4.12E-02	0.	0.	6.18E	00	3.40E	00	1.32E	01	8.24E	00		

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2400C. DENSITY (GM/CC) 1.293E-02 (1.0E 01 NORMAL)

PHOTON 02 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52 5.60 8.44E-12	0.	0.	0.	1.03E-03	6.64E-03	0.	0.	6.03E 00 9.30E 00 1.68E 01	8.70E 00	8.70E 00	8.70E 00	4.08E 01
53 5.50 0.	0.	0.	0.	1.26E-03	6.14E-03	0.	0.	6.06E 00 9.82E 00 1.72E 01	8.78E 00	8.78E 00	8.78E 00	4.18E 01
54 5.40 0.	0.	0.	0.	1.20E-03	5.22E-03	0.	0.	6.09E 00 1.04E 01 1.76E 01	8.88E 00	8.88E 00	8.88E 00	4.30E 01
55 5.30 0.	0.	0.	0.	1.22E-03	6.39E-03	0.	0.	6.13E 00 1.10E 01 1.81E 01	8.99E 00	8.99E 00	8.99E 00	4.43E 01
56 5.20 0.	0.	0.	0.	1.34E-03	5.19E-03	0.	0.	6.17E 00 1.16E 01 1.86E 01	9.13E 00	9.13E 00	9.13E 00	4.56E 01
57 5.10 0.	0.	0.	0.	1.34E-03	6.57E-03	0.	0.	6.23E 00 1.23E 01 1.92E 01	9.26E 00	9.26E 00	9.26E 00	4.70E 01
58 5.00 1.21E-04	0.	0.	0.	1.24E-03	6.35E-03	0.	0.	6.28E 00 1.31E 01 1.98E 01	9.40E 00	9.40E 00	9.40E 00	4.86E 01
59 4.90 3.06E-04	0.	0.	0.	1.40E-03	7.07E-03	0.	0.	6.33E 00 1.39E 01 2.05E 01	9.57E 00	9.57E 00	9.57E 00	5.04E 01
60 4.80 5.77E-04	0.	0.	0.	1.51E-03	6.71E-03	0.	0.	6.38E 00 1.48E 01 2.13E 01	9.78E 00	9.78E 00	9.78E 00	5.23E 01
61 4.70 7.97E-04	0.	0.	0.	1.60E-03	5.56E-03	0.	0.	6.43E 00 1.58E 01 2.22E 01	1.00E 01	1.00E 01	1.00E 01	5.45E 01
62 4.60 1.12E-03	0.	0.	0.	1.49E-03	4.21E-03	0.	0.	6.49E 00 1.69E 01 2.31E 01	1.03E 01	1.03E 01	1.03E 01	5.68E 01
63 4.50 1.20E-03	0.	0.	0.	1.51E-03	2.85E-03	0.	0.	6.54E 00 1.80E 01 2.44E 01	1.06E 01	1.06E 01	1.06E 01	5.96E 01
64 4.40 1.31E-03	0.	0.	0.	1.47E-03	1.83E-03	0.	0.	6.59E 00 1.93E 01 2.57E 01	1.09E 01	1.09E 01	1.09E 01	6.25E 01
65 4.30 1.26E-03	0.	0.	0.	1.56E-03	1.24E-03	0.	0.	6.64E 00 2.07E 01 2.71E 01	1.12E 01	1.12E 01	1.12E 01	6.57E 01
66 4.20 1.19E-03	0.	0.	0.	1.56E-03	1.24E-03	0.	0.	6.70E 00 2.22E 01 2.66E 01	1.15E 01	1.15E 01	1.15E 01	6.91E 01
67 4.10 1.14E-03	0.	0.	0.	1.55E-03	3.54E-04	0.	0.	6.72E 00 2.40E 01 3.00E 01	1.14E 01	1.14E 01	1.14E 01	7.22E 01
68 4.00 1.06E-03	0.	0.	0.	1.52E-03	2.63E-04	0.	0.	6.75E 00 2.58E 01 3.15E 01	1.04E 01	1.04E 01	1.04E 01	7.04E 01
69 3.90 9.24E-04	0.	0.	0.	1.44E-03	9.57E-05	0.	0.	6.72E 00 2.79E 01 3.16E 01	1.04E 01	1.04E 01	1.04E 01	7.27E 01
70 3.80 1.02E-03	0.	0.	0.	1.56E-03	0.	0.	0.	6.70E 00 3.02E 01 3.17E 01	1.04E 01	1.04E 01	1.04E 01	7.55E 01
71 3.70 9.33E-04	0.	0.	0.	1.37E-03	0.	0.	0.	6.59E 00 3.28E 01 2.71E 01	1.29E 00	1.29E 00	1.29E 00	7.39E 01
72 3.60 8.55E-04	0.	0.	0.	1.48E-03	0.	0.	0.	6.17E 00 3.57E 01 2.92E 01	7.94E 00	7.94E 00	7.94E 00	7.91E 01
73 3.50 8.13E-04	0.	0.	0.	1.21E-03	0.	0.	0.	5.65E 00 3.89E 01 3.12E 01	8.68E 00	8.68E 00	8.68E 00	8.46E 01
74 3.40 7.63E-04	0.	0.	0.	1.37E-03	0.	0.	0.	3.26E 00 4.24E 01 3.46E 01	9.53E 00	9.53E 00	9.53E 00	9.99E 01
75 3.30 6.18E-04	0.	0.	0.	1.12E-03	0.	0.	0.	3.26E 00 4.65E 01 3.80E 01	1.04E 01	1.04E 01	1.04E 01	9.83E 01
76 3.20 5.50E-04	0.	0.	0.	1.19E-03	0.	0.	0.	3.27E 00 5.11E 01 4.15E 01	1.13E 01	1.13E 01	1.13E 01	1.07E 02
77 3.10 5.38E-04	0.	0.	0.	1.15E-03	0.	0.	0.	3.20E 00 5.63E 01 4.51E 01	1.32E 01	1.32E 01	1.32E 01	1.17E 02
78 3.00 4.97E-04	0.	0.	0.	1.11E-03	0.	0.	0.	3.29E 00 6.22E 01 4.87E 01	1.31E 01	1.31E 01	1.31E 01	1.27E 02
79 2.90 4.24E-04	0.	0.	0.	8.78E-04	0.	0.	0.	3.29E 00 6.90E 01 5.27E 01	1.41E 01	1.41E 01	1.41E 01	1.39E 02
80 2.80 4.49E-04	0.	0.	0.	6.38E-04	0.	0.	0.	3.30E 00 7.68E 01 5.73E 01	1.53E 01	1.53E 01	1.53E 01	1.53E 02
81 2.70 2.99E-04	0.	0.	0.	3.64E-04	0.	0.	0.	3.30E 00 8.59E 01 6.24E 01	1.66E 01	1.66E 01	1.66E 01	1.68E 02
82 2.60 1.47E-04	0.	0.	0.	1.67E-04	0.	0.	0.	3.30E 00 9.64E 01 6.77E 01	1.80E 01	1.80E 01	1.80E 01	1.85E 02
83 2.50 1.05E-05	0.	0.	0.	4.07E-05	0.	0.	0.	3.30E 00 1.09E 02 7.74E 01	1.22E 01	1.22E 01	1.22E 01	2.02E 02
84 2.40 0.	6.34E-03	0.	2.60E-03	4.42E-06	0.	0.	0.	3.30E 00 1.23E 02 9.00E 01	1.40E 01	1.40E 01	1.40E 01	2.30E 02
85 2.30 0.	1.76E-02	0.	0.	0.	0.	0.	0.	3.27E 00 1.40E 02 8.27E 01	1.67E 01	1.67E 01	1.67E 01	2.43E 02
86 2.20 0.	4.87E-02	0.	0.	0.	0.	0.	0.	3.26E 00 1.60E 02 9.77E 01	1.98E 01	1.98E 01	1.98E 01	2.81E 02
87 2.10 0.	4.78E-02	0.	0.	0.	0.	0.	0.	3.24E 00 1.85E 02 1.14E 02	2.30E 01	2.30E 01	2.30E 01	3.25E 02
88 2.00 0.	9.75E-02	0.	0.	0.	0.	0.	0.	3.14E 00 2.15E 02 1.30E 02	2.62E 01	2.62E 01	2.62E 01	3.74E 02
89 1.90 0.	1.09E-01	0.	0.	0.	0.	0.	0.	3.02E 00 2.52E 02 1.50E 02	3.08E 01	3.08E 01	3.08E 01	4.36E 02
90 1.80 0.	9.53E-02	0.	0.	0.	0.	0.	0.	2.89E 00 2.98E 02 1.80E 02	3.76E 01	3.76E 01	3.76E 01	5.18E 02
91 1.70 0.	1.06E-01	0.	0.	0.	0.	0.	0.	2.72E 00 3.55E 02 2.16E 02	4.58E 01	4.58E 01	4.58E 01	6.20E 02
92 1.60 0.	8.14E-02	0.	0.	0.	0.	0.	0.	2.30E 00 4.28E 02 2.54E 02	5.40E 01	5.40E 01	5.40E 01	7.38E 02
93 1.50 0.	9.14E-02	0.	0.	0.	0.	0.	0.	1.05E 00 5.21E 02 3.32E 02	6.54E 01	6.54E 01	6.54E 01	9.19E 02
94 1.40 0.	8.95E-02	0.	0.	0.	0.	0.	0.	0.	6.43E 02 4.17E 02	7.82E 01	7.82E 01	1.14E 03
95 1.30 0.	6.85E-02	0.	0.	0.	0.	0.	0.	0.	8.07E 02 5.65E 02	1.03E 02	1.03E 02	1.48E 03
96 1.20 0.	6.53E-02	0.	0.	0.	0.	0.	0.	0.	1.03E 03 6.43E 02	1.03E 02	1.03E 02	1.78E 03
97 1.10 0.	6.43E-02	0.	0.	0.	0.	0.	0.	0.	1.35E 03 7.92E 02	1.29E 02	1.29E 02	2.27E 03
98 1.00 0.	5.93E-02	0.	0.	0.	0.	0.	0.	0.	1.82E 03 9.62E 02	1.48E 02	1.48E 02	2.93E 03
99 0.90 0.	4.85E-02	0.	0.	0.	0.	0.	0.	0.	2.52E 03 1.11E 03	1.73E 02	1.73E 02	3.40E 03
100 0.80 0.	2.27E-02	0.	0.	0.	0.	0.	0.	0.	3.63E 03 1.28E 03	1.98E 02	1.98E 02	5.11E 03
101 0.70 0.	5.17E-03	0.	0.	0.	0.	0.	0.	0.	5.50E 03 1.37E 03	1.95E 02	1.95E 02	7.07E 03
102 0.60 0.	1.31E-03	0.	0.	0.	0.	0.	0.	0.	8.89E 03 1.54E 03	2.18E 02	2.18E 02	1.06E 04

TEMPERATURE (DEGREES K) 24000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY E.V.	NO. 2 S-R CONT.	NO. 2 B-H NO. 1	NO. RETA	NO. GAMMA	NO. 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	6.18E-04	0.	0.	0.	1.07E-01	8.70E-02	1.75E 01	6.75E-01	1.83E 01
2 10.60 0.	0.	5.72E-04	0.	0.	0.	1.07E-01	8.95E-02	1.90E 00	6.72E-01	2.77E 00
3 10.50 0.	0.	5.85E-04	0.	0.	0.	1.07E-01	9.21E-02	1.90E 00	6.69E-01	2.77E 00
4 10.40 0.	0.	5.65E-04	0.	0.	0.	1.07E-01	9.48E-02	1.91E 00	6.65E-01	2.78E 00
5 10.30 0.	0.	5.03E-04	0.	0.	0.	1.08E-01	9.76E-02	1.92E 00	6.62E-01	2.78E 00
6 10.20 0.	0.	5.27E-04	0.	0.	0.	1.08E-01	1.01E-01	1.92E 00	6.59E-01	2.79E 00
7 10.10 0.	0.	5.62E-04	0.	0.	0.	1.08E-01	1.04E-01	1.91E 00	6.56E-01	2.78E 00
8 10.00 0.	0.	4.52E-04	0.	0.	0.	1.08E-01	1.07E-01	1.90E 00	6.53E-01	2.77E 00
9 9.90 0.	0.	4.67E-04	0.	0.	0.	1.08E-01	1.10E-01	1.91E 00	6.49E-01	2.78E 00
10 9.80 0.	0.	4.47E-04	0.	0.	0.	1.08E-01	1.14E-01	1.91E 00	6.46E-01	2.78E 00
11 9.70 0.	0.	3.96E-04	0.	0.	0.	1.09E-01	1.17E-01	1.92E 00	6.43E-01	2.79E 00
12 9.60 0.	0.	4.30E-04	0.	0.	0.	1.09E-01	1.21E-01	1.92E 00	6.40E-01	2.79E 00
13 9.50 0.	0.	3.77E-04	0.	0.	0.	1.09E-01	1.25E-01	1.93E 00	6.36E-01	2.80E 00
14 9.40 0.	0.	3.64E-04	0.	0.	0.	1.09E-01	1.29E-01	1.93E 00	6.33E-01	2.81E 00
15 9.30 0.	0.	3.75E-04	0.	0.	0.	1.10E-01	1.33E-01	1.94E 00	6.30E-01	2.81E 00
16 9.20 0.	0.	3.21E-04	0.	0.	0.	1.10E-01	1.38E-01	1.95E 00	6.27E-01	2.82E 00
17 9.10 0.	0.	3.32E-04	0.	0.	0.	1.11E-01	1.42E-01	1.95E 00	6.24E-01	1.70E 00
18 9.00 0.	0.	3.08E-04	0.	0.	0.	1.11E-01	1.47E-01	1.95E 00	6.21E-01	1.71E 00
19 8.90 0.	0.	2.91E-04	0.	0.	0.	1.11E-01	1.52E-01	1.95E 00	6.18E-01	1.71E 00
20 8.80 0.	0.	2.89E-04	0.	0.	0.	1.12E-01	1.57E-01	1.95E 00	6.16E-01	1.72E 00
21 8.70 0.	0.	2.58E-04	0.	0.	0.	1.12E-01	1.63E-01	1.95E 00	6.13E-01	1.72E 00
22 8.60 0.	0.	2.68E-04	0.	0.	0.	1.13E-01	1.69E-01	1.95E 00	6.10E-01	1.73E 00
23 8.50 0.	0.	2.41E-04	0.	0.	0.	1.13E-01	1.75E-01	1.95E 00	6.07E-01	1.74E 00
24 8.40 0.	0.	2.42E-04	0.	0.	0.	1.14E-01	1.81E-01	1.95E 00	6.05E-01	1.74E 00
25 8.30 0.	0.	2.11E-04	0.	0.	0.	1.14E-01	1.88E-01	1.95E 00	6.03E-01	1.74E 00
26 8.20 0.	0.	2.16E-04	0.	0.	0.	1.15E-01	1.95E-01	1.95E 00	6.03E-01	1.77E 00
27 8.10 0.	0.	1.91E-04	0.	0.	0.	1.15E-01	2.02E-01	1.95E 00	6.03E-01	1.78E 00
28 8.00 0.	0.	1.95E-04	0.	0.	0.	1.16E-01	2.10E-01	1.95E 00	6.03E-01	1.80E 00
29 7.90 0.	0.	1.71E-04	0.	0.	0.	1.17E-01	2.18E-01	1.95E 00	6.03E-01	1.81E 00
30 7.80 0.	0.	1.80E-04	0.	0.	0.	1.17E-01	2.27E-01	1.95E 00	6.03E-01	1.83E 00
31 7.70 0.	0.	1.62E-04	0.	0.	0.	1.18E-01	2.36E-01	1.95E 00	6.03E-01	1.85E 00
32 7.60 0.	0.	1.56E-04	0.	7.52E-09	0.	1.18E-01	2.45E-01	1.95E 00	6.03E-01	1.85E 00
33 7.50 0.	0.	1.48E-04	0.	2.27E-06	0.	1.19E-01	2.55E-01	1.95E 00	6.03E-01	1.88E 00
34 7.40 0.	0.	1.35E-04	0.	2.21E-07	0.	1.20E-01	2.66E-01	1.95E 00	6.03E-01	1.90E 00
35 7.30 0.	0.	1.31E-04	0.	8.06E-07	0.	1.20E-01	2.77E-01	1.95E 00	6.03E-01	1.92E 00
36 7.20 0.	0.	1.20E-04	0.	2.30E-06	0.	1.21E-01	2.89E-01	1.95E 00	6.03E-01	1.94E 00
37 7.10 0.	0.	1.18E-04	0.	7.28E-06	0.	1.22E-01	3.02E-01	1.95E 00	6.03E-01	1.96E 00
38 7.00 0.	0.	1.10E-04	0.	1.34E-05	0.	1.23E-01	3.15E-01	1.95E 00	6.03E-01	1.98E 00
39 6.90 0.	0.	1.03E-04	0.	2.05E-05	0.	1.24E-01	3.29E-01	1.95E 00	6.03E-01	2.00E 00
40 6.80 0.	0.	1.01E-04	0.	3.30E-05	0.	1.25E-01	3.44E-01	1.95E 00	6.03E-01	2.03E 00
41 6.70 0.	0.	9.07E-05	0.	3.12E-05	0.	1.26E-01	3.60E-01	1.95E 00	6.04E-01	2.05E 00
42 6.60 0.	0.	8.31E-05	0.	2.81E-05	0.	1.27E-01	3.76E-01	1.95E 00	6.05E-01	2.08E 00
43 6.50 0.	0.	6.80E-05	0.	3.84E-05	0.	1.28E-01	3.94E-01	1.95E 00	6.06E-01	2.11E 00
44 6.40 0.	0.	4.87E-05	1.10E-07	3.45E-05	0.	1.29E-01	4.13E-01	1.95E 00	6.07E-01	2.15E 00
45 6.30 0.	0.	3.16E-05	5.31E-07	2.73E-05	0.	1.30E-01	4.34E-01	1.95E 00	6.10E-01	2.18E 00
46 6.20 0.	0.	1.81E-05	7.73E-07	3.59E-05	0.	1.31E-01	4.55E-01	1.95E 00	6.13E-01	2.22E 00
47 6.10 0.	0.	8.80E-06	2.24E-06	4.23E-05	0.	1.32E-01	4.78E-01	1.95E 00	6.17E-01	2.26E 00
48 6.00 0.	0.	2.28E-06	2.23E-06	2.22E-05	0.	1.33E-01	5.03E-01	1.95E 00	6.21E-01	2.31E 00
49 5.90 0.	0.	1.64E-07	3.31E-06	2.13E-05	0.	1.33E-01	5.29E-01	1.95E 00	6.25E-01	2.35E 00
50 5.80 0.	0.	4.16E-09	4.70E-06	2.26E-05	0.	1.31E-01	5.58E-01	1.95E 00	6.27E-01	2.40E 00
51 5.70 0.	0.	0.	5.65E-06	2.53E-05	0.	1.23E-01	5.88E-01	1.95E 00	6.33E-01	2.44E 00

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2400C. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON 02 S-R ENERGY RANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	VIB-ROT	NO	NO	NO	2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	4.52E-14	0.	0.	5.00E-06	3.21E-05	0.	0.	0.	0.	1.14E-01	6.20E-01	1.12E 00	6.37E-01	2.49E 00
53	5.50	0.	0.	0.	6.12E-06	2.97E-05	0.	0.	0.	0.	1.15E-01	6.55E-01	1.14E 00	6.43E-01	2.56E 00
54	5.40	0.	0.	0.	5.78E-06	2.53E-05	0.	0.	0.	0.	1.15E-01	6.93E-01	1.18E 00	6.50E-01	2.63E 00
55	5.30	0.	0.	0.	5.92E-06	3.09E-05	0.	0.	0.	0.	1.16E-01	7.33E-01	1.21E 00	6.58E-01	2.72E 00
56	5.20	0.	0.	0.	6.46E-06	2.51E-05	0.	0.	0.	0.	1.17E-01	7.77E-01	1.23E 00	6.68E-01	2.80E 00
57	5.10	0.	0.	0.	6.49E-06	3.18E-05	0.	0.	0.	0.	1.18E-01	8.24E-01	1.27E 00	6.78E-01	2.89E 00
58	5.00	6.46E-07	0.	0.	6.00E-06	3.07E-05	0.	0.	0.	0.	1.19E-01	8.75E-01	1.31E 00	6.88E-01	3.00E 00
59	4.90	1.61E-06	0.	0.	6.76E-06	3.42E-05	0.	0.	0.	0.	1.20E-01	9.30E-01	1.36E 00	7.00E-01	3.11E 00
60	4.80	3.09E-06	0.	0.	7.33E-06	3.25E-05	0.	0.	0.	0.	1.21E-01	9.5E-01	1.41E 00	7.16E-01	3.24E 00
61	4.70	4.27E-06	0.	0.	7.45E-06	2.97E-05	0.	0.	0.	0.	1.22E-01	1.05E 00	1.47E 00	7.35E-01	3.38E 00
62	4.60	6.01E-06	0.	0.	7.74E-06	2.69E-05	0.	0.	0.	0.	1.23E-01	1.13E 00	1.53E 00	7.56E-01	3.54E 00
63	4.50	6.43E-06	0.	1.19E-05	7.23E-06	2.04E-05	0.	0.	0.	0.	1.24E-01	1.20E 00	1.62E 00	7.77E-01	3.72E 00
64	4.40	7.00E-06	0.	3.38E-05	7.33E-06	1.38E-05	0.	0.	0.	0.	1.25E-01	1.29E 00	1.70E 00	7.98E-01	3.91E 00
65	4.30	6.75E-06	0.	1.21E-04	7.12E-06	8.85E-06	0.	0.	0.	0.	1.26E-01	1.38E 00	1.80E 00	8.21E-01	4.13E 00
66	4.20	6.39E-06	0.	3.60E-04	7.53E-06	5.99E-06	0.	0.	0.	0.	1.27E-01	1.48E 00	1.90E 00	8.45E-01	4.35E 00
67	4.10	6.09E-06	0.	1.75E-04	7.50E-06	1.71E-06	0.	0.	0.	0.	1.27E-01	1.60E 00	1.99E 00	8.38E-01	4.56E 00
68	4.00	5.70E-06	0.	5.25E-04	7.35E-06	1.27E-06	0.	0.	0.	0.	1.28E-01	1.72E 00	2.09E 00	8.55E-01	4.80E 00
69	3.90	4.95E-06	0.	2.54E-04	6.95E-06	4.64E-07	0.	0.	0.	0.	1.27E-01	1.86E 00	2.09E 00	8.70E-01	4.56E 00
70	3.80	5.47E-06	0.	4.13E-04	7.54E-06	0.	0.	0.	0.	0.	1.27E-01	2.02E 00	2.11E 00	8.91E-01	4.74E 00
71	3.70	5.00E-06	0.	4.11E-04	6.65E-06	0.	0.	0.	0.	0.	1.25E-01	2.19E 00	1.80E 00	8.53E-01	4.65E 00
72	3.60	4.58E-06	0.	3.13E-04	7.18E-06	0.	0.	0.	0.	0.	1.17E-01	2.38E 00	1.94E 00	8.81E-01	5.02E 00
73	3.50	4.35E-06	0.	4.02E-04	1.99E-03	5.85E-06	0.	0.	0.	0.	1.07E-01	2.59E 00	2.07E 00	8.35E-01	5.41E 00
74	3.40	4.08E-06	0.	2.71E-04	3.68E-04	6.61E-06	0.	0.	0.	0.	6.17E-02	2.83E 00	2.30E 00	6.97E-01	5.89E 00
75	3.30	3.31E-06	0.	2.77E-04	1.29E-03	5.42E-06	0.	0.	0.	0.	6.18E-02	3.10E 00	2.52E 00	7.60E-01	6.45E 00
76	3.20	2.95E-06	0.	1.88E-04	1.89E-03	5.76E-06	0.	0.	0.	0.	6.19E-02	3.41E 00	2.76E 00	8.26E-01	7.05E 00
77	3.10	2.88E-06	0.	1.48E-04	5.87E-04	5.56E-06	0.	0.	0.	0.	6.21E-02	3.75E 00	2.99E 00	8.92E-01	7.70E 00
78	3.00	2.64E-06	0.	9.27E-05	1.21E-03	5.38E-06	0.	0.	0.	0.	5.22E-02	4.15E 00	3.23E 00	9.58E-01	8.40E 00
79	2.90	2.27E-06	0.	5.93E-05	6.47E-04	4.25E-06	0.	0.	0.	0.	6.23E-02	4.60E 00	3.50E 00	1.04E 00	9.20E 00
80	2.80	2.40E-06	0.	2.86E-05	4.81E-04	3.09E-06	0.	0.	0.	0.	6.24E-02	5.13E 00	3.81E 00	1.12E 00	1.01E 01
81	2.70	1.61E-06	0.	1.35E-05	5.65E-04	1.76E-06	0.	0.	0.	0.	6.24E-02	5.73E 00	4.14E 00	1.22E 00	1.12E 01
82	2.60	7.89E-07	0.	6.42E-06	6.17E-05	8.06E-07	0.	0.	0.	0.	6.24E-02	6.43E 00	4.49E 00	1.31E 00	1.23E 01
83	2.50	5.63E-08	0.	6.52E-07	6.09E-05	1.97E-07	0.	0.	0.	0.	6.24E-02	7.25E 00	5.13E 00	8.93E-01	1.33E 01
84	2.40	0.	2.77E-05	4.40E-05	2.14E-08	0.	0.	0.	0.	0.	6.24E-02	8.21E 00	5.96E 00	1.03E 00	1.53E 01
85	2.30	0.	7.71E-05	0.	0.	0.	0.	0.	0.	0.	6.19E-02	9.35E 00	5.48E 00	1.22E 00	1.61E 01
86	2.20	0.	2.13E-04	0.	0.	0.	0.	0.	0.	0.	6.17E-02	1.07E 01	6.47E 00	1.45E 00	1.87E 01
87	2.10	0.	2.09E-04	0.	0.	0.	0.	0.	0.	0.	6.15E-02	1.23E 01	7.53E 00	1.68E 00	2.16E 01
88	2.00	0.	4.27E-04	0.	0.	0.	0.	0.	0.	0.	5.95E-02	1.44E 01	8.60E 00	1.91E 00	2.49E 01
89	1.90	0.	4.79E-04	0.	0.	0.	0.	0.	0.	0.	5.72E-02	1.68E 01	9.90E 00	2.25E 00	2.90E 01
90	1.80	0.	4.17E-04	0.	0.	0.	0.	0.	0.	0.	5.47E-02	1.99E 01	1.19E 01	2.75E 00	3.46E 01
91	1.70	0.	4.65E-04	0.	0.	0.	0.	0.	0.	0.	5.15E-02	2.37E 01	1.43E 01	3.35E 00	4.14E 01
92	1.60	0.	3.56E-04	0.	0.	0.	0.	0.	0.	0.	4.36E-02	2.85E 01	1.68E 01	3.95E 00	4.93E 01
93	1.50	0.	4.00E-04	0.	0.	0.	0.	0.	0.	0.	1.98E-02	3.48E 01	2.20E 01	4.78E 00	6.15E 01
94	1.40	0.	3.92E-04	0.	0.	0.	0.	0.	0.	0.	0.	4.29E 01	2.76E 01	5.72E 00	7.62E 01
95	1.30	0.	3.00E-04	0.	0.	0.	0.	0.	0.	0.	5.39E 01	3.74E 01	7.51E 01	7.56E 00	9.88E 01
96	1.20	0.	2.86E-04	0.	0.	0.	0.	0.	0.	0.	6.90E 01	4.25E 01	9.45E 00	1.52E 02	1.19E 02
97	1.10	0.	2.82E-04	0.	0.	0.	0.	0.	0.	0.	9.03E 01	5.24E 01	1.08E 01	1.52E 02	1.96E 02
98	1.00	0.	2.59E-04	0.	0.	0.	0.	0.	0.	0.	1.21E 02	6.37E 01	1.26E 01	1.96E 02	2.54E 02
99	0.90	0.	2.12E-04	0.	0.	0.	0.	0.	0.	0.	1.68E 02	7.35E 01	1.45E 01	3.41E 02	4.72E 02
100	0.80	0.	9.94E-05	0.	0.	0.	0.	0.	0.	0.	2.42E 02	8.46E 01	1.43E 01	4.72E 02	7.11E 02
101	0.70	0.	2.26E-05	0.	0.	0.	0.	0.	0.	0.	3.67E 02	9.09E 01	1.60E 01	4.72E 02	7.11E 02
102	0.60	0.	5.71E-06	0.	0.	0.	0.	0.	0.	0.	5.93E 02	1.02E 02	1.60E 01	4.72E 02	7.11E 02

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		NO		FREE-FREE		PHOTO-DET (IONS)		N		P.E.		TOTAL AIR	
02 S-R	02 S-K	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2
CONT.	CONT.	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2
1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0	1.0-7.0
1	10.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



TEMPERATURE (DEGREES K) 2400C. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTO 02 S-R	N2	N2	N2+	N2	BETA	GAMMA	VIB-ROT	NO	U-	FREE-FREE	N	P.E.	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	2ND					PHOTO-DET (IONS)				
52	5.60	6.41E-17	0.	0.	6.14E-09	3.95E-08	0.	0.	7.88E-04	2.08E-02	3.81E-02	2.41E-02	8.38E-02
53	5.50	0.	0.	0.	7.52E-09	3.65E-08	0.	0.	7.92E-04	2.20E-02	3.90E-02	2.43E-02	8.61E-02
54	5.40	0.	0.	0.	7.11E-09	3.10E-08	0.	0.	7.97E-04	2.33E-02	4.01E-02	2.46E-02	8.87E-02
55	5.30	0.	0.	0.	7.28E-09	3.80E-08	0.	0.	8.02E-04	2.46E-02	4.12E-02	2.49E-02	9.15E-02
56	5.20	0.	0.	0.	7.94E-09	3.08E-08	0.	0.	8.07E-04	2.61E-02	4.09E-02	2.53E-02	9.31E-02
57	5.10	0.	0.	0.	7.98E-09	3.91E-08	0.	0.	8.14E-04	2.77E-02	4.22E-02	2.56E-02	9.63E-02
58	5.00	9.18E-10	0.	0.	7.37E-09	3.78E-08	0.	0.	8.20E-04	2.94E-02	4.36E-02	2.60E-02	9.97E-02
59	4.90	2.28E-09	0.	0.	8.31E-09	4.21E-08	0.	0.	8.27E-04	3.12E-02	4.52E-02	2.64E-02	1.04E-01
60	4.80	4.38E-09	0.	0.	9.00E-09	3.99E-08	0.	0.	8.34E-04	3.32E-02	4.69E-02	2.70E-02	1.08E-01
61	4.70	6.02E-09	0.	0.	9.16E-09	3.65E-08	0.	0.	8.41E-04	3.54E-02	4.88E-02	2.78E-02	1.13E-01
62	4.60	8.53E-09	0.	0.	9.51E-09	3.31E-08	0.	0.	8.48E-04	3.78E-02	5.10E-02	2.85E-02	1.18E-01
63	4.50	9.12E-09	0.	1.27E-08	8.88E-09	2.50E-08	0.	0.	8.55E-04	4.04E-02	5.37E-02	2.93E-02	1.24E-01
64	4.40	9.94E-09	0.	3.60E-08	9.00E-09	1.70E-08	0.	0.	8.62E-04	4.32E-02	5.66E-02	3.01E-02	1.31E-01
65	4.30	9.58E-09	0.	1.28E-07	8.75E-09	1.09E-08	0.	0.	8.68E-04	4.64E-02	5.98E-02	3.10E-02	1.38E-01
66	4.20	9.07E-09	0.	3.83E-07	9.25E-09	7.36E-09	0.	0.	8.75E-04	4.98E-02	6.30E-02	3.19E-02	1.46E-01
67	4.10	8.64E-09	0.	1.86E-07	9.22E-09	2.10E-09	0.	0.	8.79E-04	5.37E-02	6.63E-02	3.16E-02	1.52E-01
68	4.00	8.09E-09	0.	5.58E-07	9.03E-09	1.56E-09	0.	0.	8.82E-04	5.79E-02	6.95E-02	1.72E-02	1.45E-01
69	3.90	7.02E-09	0.	2.70E-07	8.54E-09	5.70E-10	0.	0.	8.79E-04	6.26E-02	6.97E-02	1.78E-02	1.51E-01
70	3.80	7.76E-09	0.	4.39E-07	9.26E-09	0.	0.	0.	8.75E-04	6.77E-02	7.02E-02	1.86E-02	1.57E-01
71	3.70	7.09E-09	0.	4.37E-07	8.17E-09	0.	0.	0.	8.61E-04	7.35E-02	6.04E-02	2.02E-02	1.55E-01
72	3.60	6.49E-09	0.	3.33E-07	8.82E-09	0.	0.	0.	8.07E-04	7.99E-02	6.50E-02	2.20E-02	1.68E-01
73	3.50	6.18E-09	0.	4.27E-07	7.19E-09	0.	0.	0.	7.38E-04	8.70E-02	6.94E-02	2.40E-02	1.81E-01
74	3.40	5.80E-09	0.	2.88E-07	6.13E-09	0.	0.	0.	4.26E-04	9.51E-02	7.67E-02	2.64E-02	1.99E-01
75	3.30	4.69E-09	0.	2.94E-07	7.46E-09	6.66E-09	0.	0.	4.27E-04	1.04E-01	8.43E-02	2.87E-02	2.18E-01
76	3.20	4.18E-09	0.	2.00E-07	1.10E-05	7.08E-09	0.	0.	4.27E-04	1.14E-01	9.20E-02	3.12E-02	2.38E-01
77	3.10	4.09E-09	0.	1.58E-07	3.41E-06	6.84E-09	0.	0.	4.28E-04	1.26E-01	9.99E-02	3.37E-02	2.60E-01
78	3.00	3.74E-09	0.	9.85E-08	7.02E-06	6.61E-09	0.	0.	4.29E-04	1.39E-01	1.04E-01	3.62E-02	2.84E-01
79	2.90	3.22E-09	0.	6.30E-08	3.76E-06	5.22E-09	0.	0.	4.30E-04	1.55E-01	1.17E-01	3.91E-02	3.11E-01
80	2.80	3.41E-09	0.	3.04E-08	2.79E-06	3.79E-09	0.	0.	4.31E-04	1.72E-01	1.27E-01	4.24E-02	3.42E-01
81	2.70	2.27E-09	0.	1.44E-08	3.28E-06	2.16E-09	0.	0.	4.31E-04	1.92E-01	1.38E-01	4.60E-02	3.77E-01
82	2.60	1.12E-09	0.	6.83E-09	3.58E-07	9.90E-10	0.	0.	4.31E-04	2.16E-01	1.48E-01	4.97E-02	4.14E-01
83	2.50	7.99E-11	0.	6.93E-10	3.54E-07	2.42E-10	0.	0.	4.31E-04	2.43E-01	1.69E-01	5.38E-02	4.46E-01
84	2.40	0.	0.	2.95E-08	2.55E-07	2.63E-11	0.	0.	4.31E-04	2.76E-01	1.96E-01	5.89E-02	5.11E-01
85	2.30	0.	0.	8.19E-08	0.	0.	0.	0.	4.27E-04	3.14E-01	2.30E-01	6.42E-02	5.41E-01
86	2.20	0.	0.	2.26E-07	0.	0.	0.	0.	4.26E-04	3.59E-01	2.13E-01	6.98E-02	6.28E-01
87	2.10	0.	0.	2.22E-07	0.	0.	0.	0.	4.24E-04	4.15E-01	2.48E-01	7.35E-02	7.26E-01
88	2.00	0.	0.	4.54E-07	0.	0.	0.	0.	4.10E-04	4.82E-01	2.83E-01	7.23E-02	8.37E-01
89	1.90	0.	0.	5.09E-07	0.	0.	0.	0.	3.95E-04	5.65E-01	3.25E-01	8.50E-02	9.76E-01
90	1.80	0.	0.	4.43E-07	0.	0.	0.	0.	3.77E-04	6.67E-01	3.91E-01	1.04E-01	1.16E-00
91	1.70	0.	0.	4.94E-07	0.	0.	0.	0.	3.56E-04	7.96E-01	4.70E-01	1.27E-01	1.39E-00
92	1.60	0.	0.	3.78E-07	0.	0.	0.	0.	3.01E-04	9.58E-01	5.51E-01	1.49E-01	1.66E-00
93	1.50	0.	0.	4.25E-07	0.	0.	0.	0.	1.37E-04	1.17E-00	7.19E-01	1.80E-01	2.07E-00
94	1.40	0.	0.	4.16E-07	0.	0.	0.	0.	0.	1.44E-00	9.02E-01	2.16E-01	2.56E-00
95	1.30	0.	0.	3.18E-07	0.	0.	0.	0.	0.	1.81E-00	1.22E-00	2.83E-01	3.31E-00
96	1.20	0.	0.	3.04E-07	0.	0.	0.	0.	0.	2.32E-00	1.39E-00	2.85E-01	3.99E-00
97	1.10	0.	0.	2.99E-07	0.	0.	0.	0.	0.	3.03E-00	1.71E-00	3.56E-01	5.10E-00
98	1.00	0.	0.	2.76E-07	0.	0.	0.	0.	0.	4.07E-00	2.08E-00	4.07E-01	6.56E-00
99	0.90	0.	0.	2.20E-07	0.	0.	0.	0.	0.	5.64E-00	2.40E-00	4.77E-01	8.51E-00
100	0.80	0.	0.	1.06E-07	0.	0.	0.	0.	0.	8.13E-00	2.76E-00	5.46E-01	1.14E-01
101	0.70	0.	0.	2.40E-08	0.	0.	0.	0.	0.	1.23E-01	2.97E-00	5.37E-01	1.58E-01
102	0.60	0.	0.	6.07E-09	0.	0.	0.	0.	0.	1.99E-01	3.32E-00	6.01E-01	2.38E-01





# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)				DENSITY (GM/CC)		1.293E-05		1.0E-03 NORMAL	
PHOTON O2 S-R		N2		N2		N2		N2	
ENERGY BANDS		1ST POS.		2ND POS.		1ST NEG.		2ND NEG.	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	
		N2		N2		N2		N2	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		24000.		DENSITY (GM/CC) 1.2-3E-06		(10.0E-04 NORMAL)		FREE-FREE		M		P.E.		TOTAL AIR	
PHOTON	U2 S-R	U2 S-K	U2 S-H	NO	BETA	NO	GAMMA	NO	2	PHOTO-DET (IGMS)	FREE-FREE	M	P.E.	O	P.E.
ENERGY	BANDS	CONF.	NO. 1												
F.V.															
1	10.70	0.	1.39E-14	0.	0.	0.	0.	0.	0.	1.66E-09	5.84E-07	3.86E-05	4.89E-06	4.40E-05	
2	10.60	0.	1.28E-14	0.	0.	0.	0.	0.	0.	1.66E-09	6.01E-07	3.91E-05	4.77E-06	4.45E-05	
3	10.50	0.	1.31E-14	0.	0.	0.	0.	0.	0.	1.66E-09	6.19E-07	3.96E-05	4.76E-06	4.50E-05	
4	10.40	0.	1.27E-14	0.	0.	0.	0.	0.	0.	1.66E-09	6.37E-07	4.01E-05	4.74E-06	4.55E-05	
5	10.30	0.	1.13E-14	0.	0.	0.	0.	0.	0.	1.67E-09	6.56E-07	4.06E-05	4.72E-06	4.60E-05	
6	10.20	0.	1.18E-14	0.	0.	0.	0.	0.	0.	1.67E-09	6.75E-07	4.12E-05	4.70E-06	4.66E-05	
7	10.10	0.	1.13E-14	0.	0.	0.	0.	0.	0.	1.67E-09	6.96E-07	4.17E-05	4.69E-06	4.71E-05	
8	10.00	0.	1.01E-14	0.	0.	0.	0.	0.	0.	1.67E-09	7.17E-07	1.97E-05	4.68E-06	2.51E-05	
9	9.90	0.	.05E-14	0.	0.	0.	0.	0.	0.	1.68E-09	7.39E-07	1.99E-05	4.67E-06	2.53E-05	
10	9.80	0.	.00E-14	0.	0.	0.	0.	0.	0.	1.68E-09	7.62E-07	2.01E-05	4.65E-06	2.55E-05	
11	9.70	0.	8.88E-15	0.	0.	0.	0.	0.	0.	1.68E-09	7.86E-07	2.03E-05	4.64E-06	2.57E-05	
12	9.60	0.	9.64E-15	0.	0.	0.	0.	0.	0.	1.68E-09	8.11E-07	2.05E-05	4.63E-06	2.59E-05	
13	9.50	0.	8.45E-15	0.	0.	0.	0.	0.	0.	1.69E-09	8.38E-07	2.07E-05	4.61E-06	2.62E-05	
14	9.40	0.	8.17E-15	0.	0.	0.	0.	0.	0.	1.69E-09	8.65E-07	2.09E-05	4.60E-06	2.64E-05	
15	9.30	0.	8.42E-15	0.	0.	0.	0.	0.	0.	1.70E-09	8.93E-07	2.12E-05	4.59E-06	2.66E-05	
16	9.20	0.	7.22E-15	0.	0.	0.	0.	0.	0.	1.71E-09	9.23E-07	2.14E-05	4.58E-06	2.69E-05	
17	9.10	0.	7.44E-15	0.	0.	0.	0.	0.	0.	1.71E-09	9.54E-07	1.63E-05	4.57E-06	2.18E-05	
18	9.00	0.	6.91E-15	0.	0.	0.	0.	0.	0.	1.72E-09	9.87E-07	1.65E-05	4.56E-06	2.20E-05	
19	8.90	0.	6.53E-15	0.	0.	0.	0.	0.	0.	1.72E-09	1.02E-06	1.67E-05	4.55E-06	2.22E-05	
20	8.80	0.	6.48E-15	0.	0.	0.	0.	0.	0.	1.73E-09	1.06E-06	1.69E-05	4.54E-06	2.25E-05	
21	8.70	0.	.78E-15	0.	0.	0.	0.	0.	0.	1.74E-09	1.09E-06	1.71E-05	4.53E-06	2.27E-05	
22	8.60	0.	6.01E-15	0.	0.	0.	0.	0.	0.	1.74E-09	1.13E-06	1.73E-05	4.53E-06	2.29E-05	
23	8.50	0.	5.41E-15	0.	0.	0.	0.	0.	0.	1.75E-09	1.17E-06	1.75E-05	4.52E-06	2.32E-05	
24	8.40	0.	5.43E-15	0.	0.	0.	0.	0.	0.	1.76E-09	1.22E-06	1.77E-05	4.51E-06	2.35E-05	
25	8.30	0.	4.74E-15	0.	0.	0.	0.	0.	0.	1.77E-09	1.26E-06	1.80E-05	4.51E-06	2.38E-05	
26	8.20	0.	4.84E-15	0.	0.	0.	0.	0.	0.	1.78E-09	1.31E-06	1.84E-05	4.52E-06	2.42E-05	
27	8.10	0.	4.29E-15	0.	0.	0.	0.	0.	0.	1.79E-09	1.36E-06	1.88E-05	4.36E-06	2.45E-05	
28	8.00	0.	4.37E-15	0.	0.	0.	0.	0.	0.	1.79E-09	1.41E-06	1.91E-05	4.35E-06	2.49E-05	
29	7.90	0.	3.85E-15	0.	0.	0.	0.	0.	0.	1.80E-09	1.46E-06	1.95E-05	4.37E-06	2.53E-05	
30	7.80	0.	4.04E-15	0.	0.	0.	0.	0.	0.	1.81E-09	1.52E-06	1.99E-05	4.38E-06	2.58E-05	
31	7.70	0.	3.63E-15	0.	0.	0.	0.	0.	0.	1.82E-09	1.58E-06	2.03E-05	4.40E-06	2.63E-05	
32	7.60	0.	3.51E-15	0.	0.	0.	2.27E-19	0.	0.	1.83E-09	1.65E-06	1.56E-05	4.42E-06	2.17E-05	
33	7.50	0.	3.32E-15	0.	0.	0.	6.88E-19	0.	0.	1.84E-09	1.71E-06	1.61E-05	4.44E-06	2.23E-05	
34	7.40	0.	3.04E-15	0.	0.	0.	6.67E-18	0.	0.	1.85E-09	1.78E-06	1.66E-05	4.47E-06	2.28E-05	
35	7.30	0.	2.93E-15	0.	0.	0.	2.44E-17	0.	0.	1.86E-09	1.86E-06	1.72E-05	4.49E-06	2.35E-05	
36	7.20	0.	2.70E-15	0.	0.	0.	6.95E-17	0.	0.	1.87E-09	1.94E-06	1.78E-05	4.53E-06	2.43E-05	
37	7.10	0.	2.64E-15	0.	0.	0.	2.20E-16	0.	0.	1.89E-09	2.02E-06	1.85E-05	4.56E-06	2.51E-05	
38	7.00	0.	2.47E-15	0.	0.	0.	4.05E-16	0.	0.	1.90E-09	2.11E-06	1.92E-05	4.60E-06	2.59E-05	
39	6.90	0.	2.31E-15	0.	0.	0.	6.20E-16	0.	0.	1.92E-09	2.20E-06	1.99E-05	4.64E-06	2.67E-05	
40	6.80	0.	2.27E-15	0.	0.	0.	9.97E-16	0.	0.	1.93E-09	2.30E-06	2.06E-05	4.67E-06	2.75E-05	
41	6.70	0.	2.03E-15	0.	0.	0.	9.43E-16	0.	0.	1.95E-09	2.41E-06	2.12E-05	4.72E-06	2.84E-05	
42	6.60	0.	1.86E-15	0.	0.	0.	8.49E-16	0.	0.	1.96E-09	2.52E-06	2.18E-05	4.76E-06	2.91E-05	
43	6.50	0.	1.53E-15	0.	0.	0.	1.16E-15	0.	0.	1.98E-09	2.64E-06	2.01E-05	4.80E-06	2.75E-05	
44	6.40	0.	1.09E-15	0.	0.	0.	3.33E-18	0.	0.	1.99E-09	2.77E-06	2.07E-05	4.84E-06	2.83E-05	
45	6.30	0.	7.09E-16	0.	0.	0.	1.61E-17	0.	0.	2.01E-09	2.91E-06	2.14E-05	4.90E-06	2.92E-05	
46	6.20	0.	4.07E-16	0.	0.	0.	2.34E-17	0.	0.	2.03E-09	3.05E-06	2.21E-05	4.96E-06	3.01E-05	
47	6.10	0.	1.97E-17	0.	0.	0.	6.77E-17	0.	0.	2.04E-09	3.20E-06	2.28E-05	5.03E-06	3.10E-05	
48	6.00	0.	5.12E-17	0.	0.	0.	6.74E-17	0.	0.	2.06E-09	3.37E-06	2.35E-05	5.10E-06	3.20E-05	
49	5.90	0.	3.68E-18	0.	0.	0.	1.00E-16	0.	0.	2.06E-09	3.55E-06	2.43E-05	5.17E-06	3.30E-05	
50	5.80	0.	9.34E-20	0.	0.	0.	1.42E-16	0.	0.	2.03E-09	3.73E-06	2.50E-05	5.23E-06	3.40E-05	
51	5.70	0.	0.	0.	0.	0.	1.71E-16	0.	0.	1.90E-09	3.94E-06	2.58E-05	5.30E-06	3.51E-05	

TEMPERATURE (DEGREES K) 2400. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

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TEMPERATURE (DEGREES)

PHOTON	02 S-R	N2	N2	N2 +	NO	NO	NO	0-	FREE-FREE	N	0	TOTAL AIR
ENERGY	BANDS	1ST POS.	2ND POS.	1ST NEG.	BETA	GAMMA	VIB-ROT	PHOTO-DET	(IONS)	P.E.	P.E.	
								2				

52	5.60	1.84E-24	0.	0.	C.	1.51E-16	9.71E-16	0.	0.	1.77E-09	4.15E-06	2.68E-05	5.37E-06	3.63E-05
53	5.50	0.	0.	0.	0.	1.85E-16	8.98E-16	0.	0.	1.78E-09	4.39E-06	2.78E-05	5.46E-06	3.74E-05
54	5.40	0.	0.	0.	0.	1.75E-16	7.64E-16	0.	0.	1.79E-09	4.64E-06	2.89E-05	5.55E-06	3.91E-05
55	5.30	0.	0.	0.	0.	1.79E-16	9.35E-16	0.	0.	1.80E-09	4.91E-06	1.42E-05	5.66E-06	2.48E-05
56	5.20	0.	0.	0.	0.	1.95E-16	7.59E-16	0.	0.	1.81E-09	5.20E-06	1.49E-05	4.79E-06	2.49E-05
57	5.10	0.	0.	0.	0.	1.96E-16	9.61E-16	0.	0.	1.83E-09	5.52E-06	1.55E-05	4.89E-06	2.59E-05
58	5.00	2.63E-17	0.	0.	0.	1.81E-16	9.29E-16	0.	0.	1.84E-09	5.86E-06	1.62E-05	4.98E-06	2.70E-05
59	4.90	6.55E-17	0.	0.	0.	2.05E-16	1.03E-15	0.	0.	1.86E-09	6.23E-06	1.69E-05	5.09E-06	2.82E-05
60	4.80	1.26E-16	0.	0.	0.	2.22E-16	9.81E-16	0.	0.	1.87E-09	6.63E-06	1.76E-05	5.21E-06	2.94E-05
61	4.70	1.74E-16	0.	0.	0.	2.75E-16	9.00E-16	0.	0.	1.89E-09	7.06E-06	1.85E-05	5.37E-06	3.10E-05
62	4.60	2.45E-16	0.	0.	0.	2.34E-16	8.14E-16	0.	0.	1.90E-09	7.54E-06	1.97E-05	5.53E-06	3.28E-05
63	4.50	2.62E-16	0.	2.67E-16	0.	2.19E-16	6.16E-16	0.	0.	1.92E-09	8.06E-06	2.10E-05	5.70E-06	3.46E-05
64	4.40	2.85E-16	0.	7.59E-16	0.	2.22E-16	4.17E-16	0.	0.	1.93E-09	8.62E-06	2.23E-05	5.72E-06	3.66E-05
65	4.30	2.75E-16	0.	2.71E-15	0.	2.15E-16	2.68E-16	0.	0.	1.95E-09	9.25E-06	2.36E-05	5.91E-06	3.88E-05
66	4.20	2.60E-16	0.	8.08E-15	0.	2.28E-16	1.81E-16	0.	0.	1.96E-09	9.94E-06	2.51E-05	6.12E-06	4.12E-05
67	4.10	2.46E-16	0.	3.92E-15	0.	2.27E-16	5.17E-17	0.	0.	1.97E-09	1.07E-05	2.67E-05	6.14E-06	4.35E-05
68	4.00	2.32E-16	0.	1.18E-14	0.	2.22E-16	3.85E-17	0.	0.	1.98E-09	1.15E-05	2.83E-05	3.75E-06	4.35E-05
69	3.90	2.01E-16	0.	5.71E-15	1.18E-12	2.10E-16	1.60E-17	0.	0.	1.97E-09	1.25E-05	2.92E-05	3.91E-06	4.56E-05
70	3.80	2.23E-16	0.	9.27E-15	4.37E-12	2.28E-16	0.	0.	0.	1.96E-09	1.35E-05	2.87E-05	4.10E-06	4.63E-05
71	3.70	2.04E-16	0.	9.22E-15	2.26E-12	2.01E-16	0.	0.	0.	1.93E-09	1.46E-05	3.02E-05	4.43E-06	4.92E-05
72	3.60	1.86E-16	0.	7.03E-15	1.11E-11	2.17E-16	0.	0.	0.	1.81E-09	1.59E-05	3.19E-05	4.79E-06	5.26E-05
73	3.50	1.77E-16	0.	9.01E-15	1.84E-11	1.77E-16	0.	0.	0.	1.66E-09	1.73E-05	3.37E-05	5.20E-06	5.63E-05
74	3.40	1.66E-16	0.	6.08E-15	3.41E-12	2.00E-16	0.	0.	0.	9.54E-10	1.89E-05	3.61E-05	5.63E-06	6.07E-05
75	3.30	1.35E-16	0.	6.21E-15	1.19E-11	1.64E-16	0.	0.	0.	9.58E-10	2.07E-05	3.85E-05	6.10E-06	6.54E-05
76	3.20	1.20E-16	0.	4.21E-15	1.75E-11	1.74E-16	0.	0.	0.	9.59E-10	2.28E-05	4.15E-05	6.64E-06	7.09E-05
77	3.10	1.17E-16	0.	3.33E-15	5.43E-12	1.68E-16	0.	0.	0.	9.61E-10	2.51E-05	4.47E-05	7.17E-06	

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 24000. DENSITY (GM/CC) 1.291E-07 (10.0E-05 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	N2 R-H NO. 1	NO BETA	NO GAMMA	NO 2	U- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
1 10.70	0.	0.	8.53E-19	0.	0.	0.	2.41E-12	1.29E-08	1.88E-06	9.15E-08	1.99E-06
2 10.60	0.	0.	7.91E-19	0.	0.	0.	2.42E-12	1.33E-08	1.91E-06	9.14E-08	2.02E-06
3 10.50	0.	0.	8.08E-19	0.	0.	0.	2.42E-12	1.37E-08	6.77E-07	9.13E-08	7.82E-07
4 10.40	0.	0.	7.81E-19	0.	0.	0.	2.42E-12	1.41E-08	6.83E-07	9.11E-08	7.88E-07
5 10.30	0.	0.	6.95E-19	0.	0.	0.	2.43E-12	1.45E-08	6.90E-07	9.11E-08	7.96E-07
6 10.20	0.	0.	7.28E-19	0.	0.	0.	2.43E-12	1.49E-08	7.01E-07	9.14E-08	8.08E-07
7 10.10	0.	0.	6.94E-19	0.	0.	0.	2.43E-12	1.54E-08	7.13E-07	9.19E-08	8.20E-07
8 10.00	0.	0.	6.25E-19	0.	0.	0.	2.43E-12	1.58E-08	7.24E-07	9.23E-08	8.32E-07
9 9.90	0.	0.	5.45E-19	0.	0.	0.	2.44E-12	1.63E-08	7.35E-07	9.28E-08	8.44E-07
10 9.80	0.	0.	6.18E-19	0.	0.	0.	2.44E-12	1.68E-08	7.47E-07	9.32E-08	8.57E-07
11 9.70	0.	0.	5.47E-19	0.	0.	0.	2.45E-12	1.73E-08	7.58E-07	9.37E-08	8.69E-07
12 9.60	0.	0.	5.93E-19	0.	0.	0.	2.45E-12	1.79E-08	7.69E-07	9.41E-08	8.81E-07
13 9.50	0.	0.	5.21E-19	0.	0.	0.	2.46E-12	1.85E-08	7.81E-07	9.46E-08	8.94E-07
14 9.40	0.	0.	5.03E-19	0.	0.	0.	2.47E-12	1.91E-08	7.93E-07	9.51E-08	9.07E-07
15 9.30	0.	0.	5.10E-19	0.	0.	0.	2.48E-12	1.97E-08	7.63E-07	9.57E-08	8.79E-07
16 9.20	0.	0.	4.44E-19	0.	0.	0.	2.48E-12	2.04E-08	7.75E-07	9.63E-08	8.92E-07
17 9.10	0.	0.	4.58E-19	0.	0.	0.	2.49E-12	2.10E-08	7.87E-07	9.68E-08	9.05E-07
18 9.00	0.	0.	4.25E-19	0.	0.	0.	2.50E-12	2.18E-08	7.99E-07	9.74E-08	9.18E-07
19 8.90	0.	0.	4.02E-19	0.	0.	0.	2.51E-12	2.25E-08	8.11E-07	9.80E-08	9.31E-07
20 8.80	0.	0.	3.99E-19	0.	0.	0.	2.52E-12	2.33E-08	8.22E-07	9.84E-08	9.44E-07
21 8.70	0.	0.	3.56E-19	0.	0.	0.	2.53E-12	2.41E-08	8.34E-07	9.90E-08	9.57E-07
22 8.60	0.	0.	3.70E-19	0.	0.	0.	2.54E-12	2.49E-08	8.46E-07	9.96E-08	9.54E-07
23 8.50	0.	0.	3.33E-19	0.	0.	0.	2.55E-12	2.58E-08	8.59E-07	1.00E-08	9.66E-07
24 8.40	0.	0.	3.35E-19	0.	0.	0.	2.56E-12	2.68E-08	8.72E-07	1.01E-08	9.81E-07
25 8.30	0.	0.	2.92E-19	0.	0.	0.	2.57E-12	2.78E-08	8.89E-07	1.02E-08	9.94E-07
26 8.20	0.	0.	2.98E-19	0.	0.	0.	2.59E-12	2.88E-08	9.10E-07	1.03E-08	1.02E-06
27 8.10	0.	0.	2.64E-19	0.	0.	0.	2.60E-12	2.99E-08	9.31E-07	1.04E-08	1.05E-06
28 8.00	0.	0.	2.69E-19	0.	0.	0.	2.61E-12	3.10E-08	9.52E-07	1.05E-08	1.08E-06
29 7.90	0.	0.	2.37E-19	0.	0.	0.	2.63E-12	3.22E-08	9.73E-07	1.06E-08	1.11E-06
30 7.80	0.	0.	2.49E-19	0.	0.	0.	2.64E-12	3.35E-08	9.94E-07	1.07E-08	1.14E-06
31 7.70	0.	0.	2.24E-19	0.	0.	0.	2.65E-12	3.48E-08	1.01E-07	1.08E-08	1.17E-06
32 7.60	0.	0.	2.16E-19	0.	0.	0.	2.67E-12	3.62E-08	1.03E-07	1.09E-08	1.20E-06
33 7.50	0.	0.	2.05E-19	0.	0.	0.	2.68E-12	3.77E-08	1.05E-07	1.10E-08	1.23E-06
34 7.40	0.	0.	1.87E-19	0.	0.	0.	2.70E-12	3.93E-08	1.07E-07	1.11E-08	1.26E-06
35 7.30	0.	0.	1.81E-19	0.	0.	0.	2.71E-12	4.09E-08	1.09E-07	1.12E-08	1.29E-06
36 7.20	0.	0.	1.64E-19	0.	0.	0.	2.73E-12	4.26E-08	1.11E-07	1.13E-08	1.32E-06
37 7.10	0.	0.	1.63E-19	0.	0.	0.	2.75E-12	4.45E-08	1.13E-07	1.14E-08	1.35E-06
38 7.00	0.	0.	1.52E-19	0.	0.	0.	2.77E-12	4.64E-08	1.15E-07	1.15E-08	1.38E-06
39 6.90	0.	0.	1.42E-19	0.	0.	0.	2.79E-12	4.85E-08	1.17E-07	1.16E-08	1.41E-06
40 6.80	0.	0.	1.40E-19	0.	0.	0.	2.81E-12	5.07E-08	1.19E-07	1.17E-08	1.44E-06
41 6.70	0.	0.	1.25E-19	0.	0.	0.	2.84E-12	5.30E-08	1.21E-07	1.18E-08	1.47E-06
42 6.60	0.	0.	1.15E-19	0.	0.	0.	2.86E-12	5.55E-08	1.23E-07	1.19E-08	1.50E-06
43 6.50	0.	0.	9.39E-20	0.	0.	0.	2.88E-12	5.81E-08	1.25E-07	1.20E-08	1.53E-06
44 6.40	0.	0.	6.73E-20	0.	0.	0.	2.90E-12	6.09E-08	1.27E-07	1.21E-08	1.56E-06
45 6.30	0.	0.	4.37E-20	0.	0.	0.	2.93E-12	6.39E-08	1.29E-07	1.22E-08	1.59E-06
46 6.20	0.	0.	2.50E-20	0.	0.	0.	2.95E-12	6.71E-08	1.31E-07	1.23E-08	1.62E-06
47 6.10	0.	0.	1.22E-20	0.	0.	0.	2.97E-12	7.05E-08	1.33E-07	1.24E-08	1.65E-06
48 6.00	0.	0.	3.15E-21	0.	0.	0.	2.99E-12	7.41E-08	1.35E-07	1.25E-08	1.68E-06
49 5.90	0.	0.	2.27E-22	0.	0.	0.	2.99E-12	7.79E-08	1.37E-07	1.26E-08	1.71E-06
50 5.80	0.	0.	5.75E-24	0.	0.	0.	2.95E-12	8.21E-08	1.39E-07	1.27E-08	1.74E-06
51 5.70	0.	0.	0.	0.	0.	0.	2.77E-12	8.65E-08	1.41E-07	1.28E-08	1.77E-06

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 24000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON 02 S-R	N2	N2	N2+	N2	BETA	GAMMA	NO	VIB-ROT	NO	PHOTO-DET	FREE-FREE	N	P.E.	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.	1ST NEG.	2ND POS.
52	5.60	2.36E-28	0.	0.	1.34E-20	8.63E-20	0.	0.	0.	2.58E-12	9.13E-08	4.79E-07	8.37E-08	6.54E-07
53	5.50	0.	0.	0.	1.65E-20	7.98E-20	0.	0.	0.	2.59E-12	9.64E-08	5.07E-07	8.58E-08	6.89E-07
54	5.40	0.	0.	0.	1.55E-20	6.79E-20	0.	0.	0.	2.60E-12	1.02E-07	5.37E-07	9.36E-08	7.27E-07
55	5.30	0.	0.	0.	1.59E-20	6.31E-20	0.	0.	0.	2.62E-12	1.08E-07	5.67E-07	9.17E-08	7.66E-07
56	5.20	0.	0.	0.	1.74E-20	6.74E-20	0.	0.	0.	2.64E-12	1.14E-07	5.97E-07	9.50E-08	8.06E-07
57	5.10	0.	0.	0.	1.75E-20	8.54E-20	0.	0.	0.	2.66E-12	1.21E-07	6.27E-07	9.62E-08	8.47E-07
58	5.00	3.34E-21	0.	0.	1.61E-20	8.26E-20	0.	0.	0.	2.68E-12	1.29E-07	6.58E-07	1.01E-07	8.88E-07
59	4.90	8.41E-21	0.	0.	1.82E-20	9.20E-20	0.	0.	0.	2.70E-12	1.37E-07	6.88E-07	1.05E-07	9.30E-07
60	4.80	1.61E-20	0.	0.	1.97E-20	8.72E-20	0.	0.	0.	2.73E-12	1.45E-07	7.19E-07	9.57E-08	9.60E-07
61	4.70	2.23E-20	0.	0.	2.00E-20	7.99E-20	0.	0.	0.	2.75E-12	1.55E-07	7.63E-07	9.96E-08	1.02E-06
62	4.60	3.14E-20	0.	0.	2.08E-20	7.26E-20	0.	0.	0.	2.77E-12	1.65E-07	8.19E-07	1.04E-07	1.09E-06
63	4.50	3.36E-20	0.	0.	1.94E-20	5.48E-20	0.	0.	0.	2.79E-12	1.77E-07	8.77E-07	1.09E-07	1.16E-06
64	4.40	3.66E-20	0.	0.	1.97E-20	3.71E-20	0.	0.	0.	2.81E-12	1.89E-07	9.34E-07	1.13E-07	1.24E-06
65	4.30	3.53E-20	0.	0.	1.91E-20	2.38E-20	0.	0.	0.	2.84E-12	2.03E-07	9.92E-07	1.14E-07	1.31E-06
66	4.20	3.34E-20	0.	0.	2.02E-20	1.61E-20	0.	0.	0.	2.86E-12	2.18E-07	1.06E-06	1.14E-07	1.39E-06
67	4.10	3.18E-20	0.	0.	2.02E-20	4.60E-21	0.	0.	0.	2.87E-12	2.35E-07	1.13E-06	1.21E-07	1.47E-06
68	4.00	2.98E-20	0.	0.	1.97E-20	3.42E-21	0.	0.	0.	2.88E-12	2.53E-07	1.20E-06	1.08E-07	1.54E-06
69	3.90	2.58E-20	0.	0.	3.51E-19	5.64E-16	0.	0.	0.	2.88E-12	2.73E-07	1.25E-06	1.10E-07	1.63E-06
70	3.80	2.86E-20	0.	0.	5.71E-19	2.09E-15	0.	0.	0.	2.86E-12	2.96E-07	1.32E-06	1.17E-07	1.73E-06
71	3.70	2.61E-20	0.	0.	5.68E-19	1.08E-15	0.	0.	0.	2.81E-12	3.21E-07	1.39E-06	1.25E-07	1.84E-06
72	3.60	2.39E-20	0.	0.	4.33E-19	5.31E-15	0.	0.	0.	2.64E-12	3.48E-07	1.46E-06	1.34E-07	1.94E-06
73	3.50	2.28E-20	0.	0.	5.55E-19	8.84E-15	0.	0.	0.	2.41E-12	3.80E-07	1.54E-06	1.43E-07	2.06E-06
74	3.40	2.13E-20	0.	0.	3.75E-19	1.63E-15	0.	0.	0.	1.39E-12	4.15E-07	1.63E-06	1.54E-07	2.20E-06
75	3.30	1.73E-20	0.	0.	3.83E-19	5.70E-15	0.	0.	0.	1.39E-12	4.54E-07	1.72E-06	1.65E-07	2.36E-06
76	3.20	1.54E-20	0.	0.	2.60E-19	8.38E-15	0.	0.	0.	1.40E-12	4.90E-07	1.84E-06	1.65E-07	2.51E-06
77	3.10	1.51E-20	0.	0.	2.05E-19	2.60E-15	0.	0.	0.	1.42E-12	5.49E-07	1.91E-07	1.79E-07	2.68E-06
78	3.00	1.38E-20	0.	0.	1.28E-19	5.36E-15	0.	0.	0.	1.40E-12	6.04E-07	2.01E-07	1.93E-07	2.86E-06
79	2.90	1.19E-20	0.	0.	8.19E-19	2.87E-15	0.	0.	0.	1.40E-12	6.72E-07	2.11E-07	1.73E-07	3.04E-06
80	2.80	1.26E-20	0.	0.	3.96E-20	2.13E-15	0.	0.	0.	1.41E-12	7.48E-07	2.22E-07	1.61E-07	3.23E-06
81	2.70	8.38E-21	0.	0.	1.87E-20	2.50E-15	0.	0.	0.	1.41E-12	8.36E-07	2.34E-07	1.61E-07	3.43E-06
82	2.60	4.12E-21	0.	0.	8.87E-21	2.73E-16	0.	0.	0.	1.41E-12	9.38E-07	2.47E-07	1.47E-07	3.64E-06
83	2.50	2.94E-22	0.	0.	9.01E-22	2.70E-16	0.	0.	0.	1.41E-12	1.04E-06	2.62E-06	1.66E-07	3.86E-06
84	2.40	0.	0.	0.	1.95E-16	5.75E-23	0.	0.	0.	1.41E-12	1.20E-06	2.79E-06	1.93E-07	4.09E-06
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	1.40E-12	1.36E-06	2.97E-06	2.21E-07	4.33E-06
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	1.39E-12	1.56E-06	3.26E-06	2.52E-07	4.67E-06
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	1.38E-12	1.80E-06	3.62E-06	2.83E-07	5.01E-06
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	1.34E-12	2.09E-06	4.06E-06	3.14E-07	5.35E-06
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-12	2.44E-06	4.56E-06	3.52E-07	5.79E-06
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	1.23E-12	2.89E-06	5.11E-06	4.03E-07	6.33E-06
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	1.16E-12	3.44E-06	5.72E-06	4.51E-07	6.97E-06
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	9.83E-13	4.14E-06	6.34E-06	5.07E-07	7.70E-06
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	4.47E-13	5.04E-06	7.20E-06	5.52E-07	8.64E-06
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.22E-06	8.35E-06	7.97E-07	9.97E-06
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.79E-06	1.02E-05	9.44E-07	1.10E-05
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.97E-06	1.26E-05	1.08E-07	1.37E-05
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-05	1.60E-05	1.30E-07	1.74E-05
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.74E-05	2.06E-05	1.74E-07	2.25E-05
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.41E-05	2.73E-05	2.41E-07	3.06E-05
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.47E-05	3.94E-05	3.47E-07	4.47E-05
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.25E-05	5.45E-05	5.25E-07	6.61E-05
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.46E-05	8.66E-05	8.46E-07	1.06E-04

# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 24000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	02 B-H NO. 1	NO RETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	Q P.E.	TOTAL AIR
1 10.70 0.	0.	9.97E-24	0.	0.	0.	2.10E-15	2.32E-10	1.51E-08	2.53E-09	1.79E-08
2 10.60 0.	0.	8.31E-24	0.	0.	0.	2.10E-15	2.70E-10	1.53E-08	2.54E-09	1.81E-08
3 10.50 0.	0.	8.50E-24	0.	0.	0.	2.11E-15	2.79E-10	1.54E-08	2.54E-09	1.82E-08
4 10.40 0.	0.	8.21E-24	0.	0.	0.	2.11E-15	2.86E-10	1.55E-08	2.55E-09	1.84E-08
5 10.30 0.	0.	7.31E-24	0.	0.	0.	2.11E-15	2.94E-10	1.57E-08	2.55E-09	1.86E-08
6 10.20 0.	0.	7.65E-24	0.	0.	0.	2.12E-15	3.03E-10	1.60E-08	2.58E-09	1.89E-08
7 10.10 0.	0.	7.29E-24	0.	0.	0.	2.12E-15	3.12E-10	1.63E-08	2.62E-09	1.92E-08
8 10.00 0.	0.	6.57E-24	0.	0.	0.	2.12E-15	3.21E-10	1.66E-08	2.65E-09	1.95E-08
9 9.90 0.	0.	6.78E-24	0.	0.	0.	2.13E-15	3.31E-10	1.68E-08	2.68E-09	1.98E-08
10 9.80 0.	0.	6.49E-24	0.	0.	0.	2.13E-15	3.42E-10	1.71E-08	2.72E-09	2.02E-08
11 9.70 0.	0.	5.75E-24	0.	0.	0.	2.13E-15	3.53E-10	1.74E-08	2.75E-09	2.05E-08
12 9.60 0.	0.	6.24E-24	0.	0.	0.	2.14E-15	3.64E-10	1.77E-08	2.78E-09	2.08E-08
13 9.50 0.	0.	5.47E-24	0.	0.	0.	2.14E-15	3.75E-10	1.80E-08	2.82E-09	2.11E-08
14 9.40 0.	0.	5.29E-24	0.	0.	0.	2.15E-15	3.88E-10	1.82E-08	2.86E-09	2.15E-08
15 9.30 0.	0.	5.45E-24	0.	0.	0.	2.16E-15	4.00E-10	1.84E-08	2.90E-09	2.17E-08
16 9.20 0.	0.	4.67E-24	0.	0.	0.	2.16E-15	4.13E-10	1.87E-08	2.94E-09	2.21E-08
17 9.10 0.	0.	4.82E-24	0.	0.	0.	2.17E-15	4.27E-10	1.90E-08	2.97E-09	2.24E-08
18 9.00 0.	0.	4.47E-24	0.	0.	0.	2.18E-15	4.42E-10	1.93E-08	3.01E-09	2.27E-08
19 8.90 0.	0.	4.23E-24	0.	0.	0.	2.19E-15	4.57E-10	1.96E-08	3.04E-09	2.31E-08
20 8.80 0.	0.	4.20E-24	0.	0.	0.	2.19E-15	4.73E-10	1.99E-08	3.07E-09	2.34E-08
21 8.70 0.	0.	3.74E-24	0.	0.	0.	2.20E-15	4.89E-10	2.02E-08	3.11E-09	2.38E-08
22 8.60 0.	0.	3.89E-24	0.	0.	0.	2.21E-15	5.07E-10	2.05E-08	3.15E-09	2.41E-08
23 8.50 0.	0.	3.50E-24	0.	0.	0.	2.22E-15	5.25E-10	2.08E-08	3.20E-09	2.45E-08
24 8.40 0.	0.	3.52E-24	0.	0.	0.	2.23E-15	5.44E-10	2.11E-08	3.25E-09	2.49E-08
25 8.30 0.	0.	3.07E-24	0.	0.	0.	2.24E-15	5.64E-10	2.14E-08	3.30E-09	2.53E-08
26 8.20 0.	0.	3.13E-24	0.	0.	0.	2.25E-15	5.85E-10	2.17E-08	3.39E-09	2.57E-08
27 8.10 0.	0.	2.78E-24	0.	0.	0.	2.26E-15	6.07E-10	2.20E-08	3.47E-09	2.61E-08
28 8.00 0.	0.	2.83E-24	0.	0.	0.	2.28E-15	6.30E-10	2.24E-08	3.56E-09	2.65E-08
29 7.90 0.	0.	2.49E-24	0.	0.	0.	2.29E-15	6.54E-10	2.27E-08	3.64E-09	2.69E-08
30 7.80 0.	0.	2.62E-24	0.	0.	0.	2.30E-15	6.80E-10	2.31E-08	3.73E-09	2.73E-08
31 7.70 0.	0.	2.35E-24	0.	0.	0.	2.31E-15	7.07E-10	2.35E-08	3.82E-09	2.77E-08
32 7.60 0.	0.	2.27E-24	0.	4.40E-28	0.	2.32E-15	7.35E-10	2.38E-08	3.91E-09	2.81E-08
33 7.50 0.	0.	2.15E-24	0.	1.33E-27	0.	2.33E-15	7.65E-10	2.42E-08	4.00E-09	2.85E-08
34 7.40 0.	0.	1.97E-24	0.	1.29E-26	0.	2.35E-15	7.97E-10	2.46E-08	4.10E-09	2.89E-08
35 7.30 0.	0.	1.90E-24	0.	4.71E-24	0.	2.36E-15	8.30E-10	2.50E-08	4.21E-09	2.93E-08
36 7.20 0.	0.	1.75E-24	0.	1.34E-25	0.	2.37E-15	8.65E-10	2.54E-08	4.32E-09	2.97E-08
37 7.10 0.	0.	1.71E-24	0.	4.26E-25	0.	2.39E-15	9.03E-10	2.58E-08	4.44E-09	3.01E-08
38 7.00 6.86E-27	0.	1.60E-24	0.	7.82E-25	0.	2.41E-15	9.42E-10	2.62E-08	4.56E-09	3.05E-08
39 6.90 1.36E-26	0.	1.50E-24	0.	1.20E-24	0.	2.43E-15	9.84E-10	2.66E-08	4.68E-09	3.09E-08
40 6.80 1.18E-26	0.	1.47E-24	0.	1.93E-24	0.	2.45E-15	1.03E-09	2.70E-08	4.80E-09	3.13E-08
41 6.70 8.75E-27	0.	1.32E-24	0.	1.82E-24	0.	2.47E-15	1.07E-09	2.74E-08	4.92E-09	3.17E-08
42 6.60 5.40E-27	0.	1.21E-24	0.	1.64E-24	0.	2.49E-15	1.13E-09	2.78E-08	5.04E-09	3.21E-08
43 6.50 3.16E-27	0.	9.87E-25	0.	2.25E-24	0.	2.51E-15	1.18E-09	2.82E-08	5.16E-09	3.25E-08
44 6.40 1.84E-27	0.	7.07E-25	6.44E-27	2.02E-24	0.	2.53E-15	1.23E-09	2.86E-08	5.28E-09	3.29E-08
45 6.30 1.09E-27	0.	4.59E-25	3.11E-26	1.59E-24	0.	2.55E-15	1.30E-09	2.90E-08	5.40E-09	3.33E-08
46 6.20 5.01E-28	0.	2.63E-25	4.52E-26	2.10E-24	0.	2.57E-15	1.36E-09	2.94E-08	5.52E-09	3.37E-08
47 6.10 2.35E-28	0.	1.28E-25	1.31E-25	2.47E-24	0.	2.59E-15	1.43E-09	2.98E-08	5.64E-09	3.41E-08
48 6.00 9.95E-29	0.	3.31E-26	1.30E-25	1.30E-24	0.	2.61E-15	1.50E-09	3.02E-08	5.76E-09	3.45E-08
49 5.90 2.44E-29	0.	2.38E-27	1.94E-25	1.24E-24	0.	2.61E-15	1.58E-09	3.06E-08	5.88E-09	3.49E-08
50 5.80 3.17E-30	0.	6.04E-29	2.75E-25	1.32E-24	0.	2.57E-15	1.66E-09	3.10E-08	6.00E-09	3.53E-08
51 5.70 2.34E-31	0.	0.	3.30E-25	1.48E-24	0.	2.41E-15	1.75E-09	3.14E-08	6.12E-09	3.57E-08



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 24000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON ENERGY	02 S-R	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	GAMMA	NO VIB-ROT	NO	NO	PHOTO-DET (IONS)	FREE-FREE	N	O	TOTAL AIR
												P.E.	P.E.	
52	5.60	1.06E-32	0.	0.	2.92E-25	1.88E-24	0.	0.	2.24E-15	1.85E-09	1.11E-08	2.25E-09	1.52E-08	
53	5.50	0.	0.	0.	3.58E-25	1.74E-24	0.	0.	2.26E-15	1.95E-09	1.17E-08	2.35E-09	1.60E-08	
54	5.40	0.	0.	0.	3.38E-25	1.48E-24	0.	0.	2.27E-15	2.07E-09	1.25E-08	2.47E-09	1.70E-08	
55	5.30	0.	0.	0.	3.46E-25	1.81E-24	0.	0.	2.28E-15	2.19E-09	1.32E-08	2.60E-09	1.80E-08	
56	5.20	0.	0.	0.	3.78E-25	1.47E-24	0.	0.	2.30E-15	2.31E-09	1.39E-08	2.74E-09	1.90E-08	
57	5.10	0.	0.	0.	3.80E-25	1.86E-24	0.	0.	2.32E-15	2.45E-09	1.46E-08	2.26E-09	1.94E-08	
58	5.00	1.52E-25	0.	0.	3.51E-25	1.80E-24	0.	0.	2.33E-15	2.61E-09	1.54E-08	2.38E-09	2.04E-08	
59	4.90	3.76E-25	0.	0.	3.95E-25	2.00E-24	0.	0.	2.35E-15	2.77E-09	1.61E-08	2.50E-09	2.14E-08	
60	4.80	7.26E-25	0.	0.	4.28E-25	1.90E-24	0.	0.	2.37E-15	2.95E-09	1.68E-08	2.62E-09	2.24E-08	
61	4.70	1.00E-24	0.	0.	4.36E-25	1.74E-24	0.	0.	2.39E-15	3.14E-09	1.79E-08	2.75E-09	2.38E-08	
62	4.60	1.41E-24	0.	0.	4.53E-25	1.57E-24	0.	0.	2.41E-15	3.35E-09	1.92E-08	2.89E-09	2.55E-08	
63	4.50	1.51E-24	0.	1.73E-25	4.23E-25	1.19E-24	0.	0.	2.43E-15	3.58E-09	2.06E-08	3.04E-09	2.72E-08	
64	4.40	1.65E-24	0.	4.91E-25	4.28E-25	8.07E-25	0.	0.	2.45E-15	3.83E-09	2.20E-08	3.23E-09	2.90E-08	
65	4.30	1.54E-24	0.	1.75E-24	4.16E-25	5.17E-25	0.	0.	2.47E-15	4.11E-09	2.33E-08	3.44E-09	3.09E-08	
66	4.20	1.50E-24	0.	5.23E-24	4.40E-25	3.50E-25	0.	0.	2.49E-15	4.41E-09	2.49E-08	3.35E-09	3.27E-08	
67	4.10	1.43E-24	0.	2.54E-24	4.38E-25	1.00E-25	0.	0.	2.50E-15	4.75E-09	2.66E-08	3.62E-09	3.50E-08	
68	4.00	1.34E-24	0.	7.62E-24	4.29E-25	7.44E-26	0.	0.	2.51E-15	5.12E-09	2.83E-08	3.90E-09	3.73E-08	
69	3.90	1.16E-24	0.	3.69E-24	4.06E-25	2.71E-26	0.	0.	2.50E-15	5.53E-09	2.99E-08	4.17E-09	3.96E-08	
70	3.80	1.29E-24	0.	6.09E-24	4.41E-25	0.	0.	0.	2.49E-15	5.98E-09	3.16E-08	4.44E-09	4.20E-08	
71	3.70	1.17E-24	0.	5.97E-24	4.75E-25	0.	0.	0.	2.45E-15	6.49E-09	3.33E-08	4.73E-09	4.45E-08	
72	3.60	1.05E-24	0.	4.55E-24	4.30E-25	0.	0.	0.	2.30E-15	7.05E-09	3.50E-08	5.02E-09	4.70E-08	
73	3.50	1.02E-24	0.	5.83E-24	7.15E-25	0.	0.	0.	2.10E-15	7.68E-09	3.68E-08	5.34E-09	4.98E-08	
74	3.40	9.60E-25	0.	3.94E-24	1.32E-25	0.	0.	0.	1.21E-15	8.39E-09	1.34E-08	4.93E-09	2.67E-08	
75	3.30	7.78E-25	0.	4.02E-24	4.61E-25	0.	0.	0.	1.21E-15	9.10E-09	1.26E-08	5.26E-09	2.70E-08	
76	3.20	6.93E-25	0.	2.73E-24	6.79E-25	0.	0.	0.	1.22E-15	1.01E-08	1.43E-08	4.20E-09	2.86E-08	
77	3.10	6.77E-25	0.	2.15E-24	2.11E-25	0.	0.	0.	1.22E-15	1.11E-08	1.64E-08	4.66E-09	3.21E-08	
78	3.00	6.21E-25	0.	1.35E-24	4.34E-25	0.	0.	0.	1.22E-15	1.23E-08	1.84E-08	3.87E-09	3.45E-08	
79	2.90	5.34E-25	0.	8.61E-25	2.32E-25	0.	0.	0.	1.22E-15	1.36E-08	2.04E-08	4.28E-09	3.83E-08	
80	2.80	5.66E-25	0.	4.16E-25	1.73E-25	0.	0.	0.	1.23E-15	1.51E-08	2.25E-08	4.69E-09	4.23E-08	
81	2.70	3.77E-25	0.	1.97E-25	2.03E-25	0.	0.	0.	1.23E-15	1.69E-08	2.45E-08	4.86E-09	4.63E-08	
82	2.60	1.85E-25	0.	9.33E-26	2.21E-25	0.	0.	0.	1.23E-15	1.90E-08	2.66E-08	5.24E-09	5.08E-08	
83	2.50	1.32E-26	0.	9.47E-27	2.19E-25	0.	0.	0.	1.23E-15	2.13E-08	2.91E-08	5.82E-09	5.63E-08	
84	2.40	0.	4.03E-25	0.	1.58E-25	0.	0.	0.	1.23E-15	2.42E-08	3.32E-08	6.64E-09	6.40E-08	
85	2.30	0.	1.12E-24	0.	0.	0.	0.	0.	1.22E-15	2.75E-08	3.72E-08	7.46E-09	7.22E-08	
86	2.20	0.	3.09E-24	0.	0.	0.	0.	0.	1.21E-15	3.14E-08	4.13E-08	8.31E-09	8.10E-08	
87	2.10	0.	3.04E-24	0.	0.	0.	0.	0.	1.21E-15	3.63E-08	4.54E-08	9.15E-09	9.08E-08	
88	2.00	0.	6.20E-24	0.	0.	0.	0.	0.	1.17E-15	4.21E-08	4.94E-08	9.74E-09	1.02E-07	
89	1.90	0.	6.95E-24	0.	0.	0.	0.	0.	1.12E-15	4.94E-08	5.34E-08	5.29E-09	7.80E-08	
90	1.80	0.	6.05E-24	0.	0.	0.	0.	0.	1.07E-15	5.83E-08	5.83E-08	5.98E-09	9.03E-08	
91	1.70	0.	6.75E-24	0.	0.	0.	0.	0.	1.01E-15	6.94E-08	6.71E-08	6.71E-09	1.05E-07	
92	1.60	0.	5.17E-24	0.	0.	0.	0.	0.	8.56E-16	8.35E-08	3.13E-08	7.39E-09	1.22E-07	
93	1.50	0.	5.81E-24	0.	0.	0.	0.	0.	3.89E-16	1.02E-07	3.42E-08	8.23E-09	1.44E-07	
94	1.40	0.	5.69E-24	0.	0.	0.	0.	0.	0.	1.25E-07	3.66E-08	8.37E-09	1.70E-07	
95	1.30	0.	4.35E-24	0.	0.	0.	0.	0.	0.	1.57E-07	4.01E-08	9.62E-09	2.07E-07	
96	1.20	0.	4.15E-24	0.	0.	0.	0.	0.	0.	2.01E-07	4.96E-09	3.45E-09	2.09E-07	
97	1.10	0.	4.09E-24	0.	0.	0.	0.	0.	0.	2.62E-07	6.16E-09	4.34E-09	2.73E-07	
98	1.00	0.	3.76E-24	0.	0.	0.	0.	0.	0.	3.51E-07	7.51E-09	5.24E-09	3.64E-07	
99	0.90	0.	3.08E-24	0.	0.	0.	0.	0.	0.	4.85E-07	8.37E-09	5.26E-09	4.98E-07	
100	0.80	0.	1.44E-24	0.	0.	0.	0.	0.	0.	6.97E-07	9.65E-09	6.08E-09	7.13E-07	
101	0.70	0.	3.28E-25	0.	0.	0.	0.	0.	0.	1.05E-06	9.24E-09	5.35E-09	1.07E-06	
102	0.60	0.	8.30E-26	0.	0.	0.	0.	0.	0.	1.70E-06	1.04E-08	6.05E-09	1.71E-06	



# ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-09 (1.0E-06 NORMAL)		FREE-FREE		N		P.E.		TOTAL AIR	
PHOTON ENERGY BANDS		O2 S-R		O2 S-R		N2 B-H		NO		NO		NO	
E.V.		CONT.		CONT.		NO. 1		BETA		GAMMA		2	
1	10.70	0.	0.	0.	0.	1.68E-29	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	0.	0.	1.55E-29	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	0.	0.	1.59E-29	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	0.	0.	1.54E-29	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	0.	0.	1.37E-29	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	0.	0.	1.43E-29	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	0.	0.	1.36E-29	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	0.	0.	1.23E-29	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	0.	0.	1.27E-29	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	0.	0.	1.21E-29	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	0.	0.	1.08E-29	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	0.	0.	1.17E-29	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	0.	0.	1.02E-29	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	0.	0.	9.89E-30	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	0.	0.	1.02E-29	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	0.	0.	8.73E-30	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	0.	0.	9.01E-30	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	0.	0.	8.36E-30	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	0.	0.	7.91E-30	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	0.	0.	7.85E-30	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	0.	0.	7.00E-30	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	0.	0.	7.28E-30	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	0.	0.	6.53E-30	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	0.	0.	6.58E-30	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	0.	0.	5.74E-30	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	0.	0.	5.86E-30	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	0.	0.	5.19E-30	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	0.	0.	5.29E-30	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	0.	0.	4.66E-30	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	0.	0.	4.89E-30	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	0.	0.	4.40E-30	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	0.	0.	4.25E-30	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	0.	0.	4.02E-30	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	0.	0.	3.68E-30	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	0.	0.	3.55E-30	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	0.	0.	3.27E-30	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	0.	0.	3.20E-30	0.	0.	0.	0.	0.	0.	0.
38	7.00	2.72E-32	0.	0.	0.	2.99E-30	0.	0.	0.	0.	0.	0.	0.
39	6.90	5.36E-32	0.	0.	0.	2.80E-30	0.	0.	0.	0.	0.	0.	0.
40	6.80	4.69E-32	0.	0.	0.	2.75E-30	0.	0.	0.	0.	0.	0.	0.
41	6.70	3.47E-32	0.	0.	0.	2.46E-30	0.	0.	0.	0.	0.	0.	0.
42	6.60	2.14E-32	0.	0.	0.	2.26E-30	0.	0.	0.	0.	0.	0.	0.
43	6.50	1.25E-32	0.	0.	0.	1.85E-30	0.	0.	0.	0.	0.	0.	0.
44	6.40	7.31E-33	0.	0.	0.	1.32E-30	0.	0.	0.	0.	0.	0.	0.
45	6.30	4.32E-33	0.	0.	0.	8.59E-31	0.	0.	0.	0.	0.	0.	0.
46	6.20	1.98E-33	0.	0.	0.	4.92E-31	0.	0.	0.	0.	0.	0.	0.
47	6.10	9.30E-34	0.	0.	0.	2.39E-31	0.	0.	0.	0.	0.	0.	0.
48	6.00	3.94E-34	0.	0.	0.	6.20E-32	0.	0.	0.	0.	0.	0.	0.
49	5.90	9.82E-35	0.	0.	0.	4.45E-33	0.	0.	0.	0.	0.	0.	0.
50	5.80	1.26E-35	0.	0.	0.	1.13E-34	0.	0.	0.	0.	0.	0.	0.
51	5.70	9.26E-37	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

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13. ABSTRACT An extensive tabulation of absorption coefficients of heated air has been carried out with the aid of several large digital computer programs. These tables supersede the previous ones computed at Lockheed by Meyerott, Sokoloff, and Nicholls in 1959. Tables are presented for temperatures at every 1000°K between 1000°K and 24,000°K and for eight densities between ten times normal atmospheric to 10 <sup>-6</sup> times normal. Absorption coefficients are individually listed for each of 14 contributing absorbers. The photon energy range is 0.6-10.7 eV with a partition interval of 0.1 eV.		

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14 KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Absorption coefficients of heated air Spectral absorption of air diatomic molecules Spectral absorption of air atoms Air thermal radiation						

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